

TEACHING BOOKKEEPING AND ACCOUNTING

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TEACHING BOOKKEEPING AND ACCOUNTING

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TAX AND BOOKKEEPING AND ACCOUNTING

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Preface

CAREER OPPORTUNITIES in bookkeeping and accounting are better than ever because modern business management is calling for more and more facts and figures to guide its decisions. Teachers can help their students to qualify for one of the many fine jobs available by offering the most effective vocational training that it is possible to devise. Modern bookkeeping instruction must reflect the latest business practices and should employ the most up to date methods of classroom presentation. *Teaching Bookkeeping and Accounting* was designed to support the bookkeeping teacher's efforts to stay abreast of the times.

The book covers the entire accounting cycle and the full range of teaching problems on a very practical down to cases level. For beginners the authors have singled out typical teaching difficulties and have presented specific remedies that really work. For the more experienced teacher the authors offer new ideas for course improvement and enrichment.

The style of writing is very easy and smooth flowing. Professional verbiage has been held to a minimum. The student will actually enjoy his work in bookkeeping and accounting methods because the authors help him to understand the why of the teaching method and of the accounting principle involved. Little or nothing is taken for granted. If a teacher needs some background information to grasp a new point of method this information is supplied.

Teaching Bookkeeping and Accounting contains many excellent illustrations and examples of entries, forms and classroom procedures. These illustrations will not only give the teacher confidence—chances are that he himself will use them in class to drive

CHAPTER 1

Place of Bookkeeping and Accounting in the Curriculum

OVER ONE-HALF MILLION students are enrolled in bookkeeping courses in secondary schools each year. An equal number, if not more, are enrolled in bookkeeping and accounting courses in evening schools, business colleges, junior colleges, universities, and correspondence schools. Typewriting is the only business subject in the secondary school that exceeds bookkeeping in total enrollment. Thus, from the standpoint of enrollment, bookkeeping is the second most popular business subject taught in our schools.

Although bookkeeping as a subject is well established as a part of the secondary-school curriculum, wide variations exist in the bookkeeping programs offered. For example, many schools offer only one year of bookkeeping. Others may offer as many as three years. The major objective of the course in some schools is vocational training. In others, it is taught primarily for its personal use values. In an effort to adapt the course to the needs and abilities of a larger number of students, the subject matter of the first-year course in some schools has been changed to emphasize record keeping activities. Conversely, the accounting elements of the course are stressed in other schools and only students of average ability or above are admitted to the course.

PERCENTAGE OF TOTAL ENROLLMENT OF SECONDARY-SCHOOL
STUDENTS IN THE BUSINESS EDUCATION COURSES IN THE
UNITED STATES FOR THE YEARS 1948-1949 ¹

<i>Course</i>	<i>No Enrolled All Grades</i>	<i>Per Cent of Total Enrollment— All Courses</i>
Typewriting	1,216,142	22.5
Bookkeeping	472,163	8.7
Shorthand	421,635	7.8
General Business Education	279,577	5.2
Business Arithmetic	249,690	4.6
Business Law	130,585	2.4
Office Practice	108,201	2.0
Business English	56,620	1.0

What type of bookkeeping course should be taught at the secondary school level? What should be the objectives of the course? Who should study bookkeeping? Should one, two, or three years of bookkeeping be offered? On what grade level should the course or courses be taught? This chapter is devoted to a consideration of these questions.

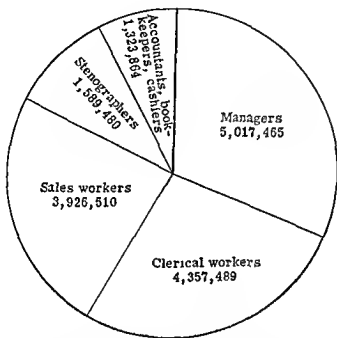
EMPLOYMENT OPPORTUNITIES

In order to determine what type of bookkeeping course should be offered in the secondary school, consideration must first be given to such basic questions as: Are there employment opportunities in bookkeeping work for high school graduates? To what extent should the bookkeeping course contribute to the preparation of those planning to enter other types of business work? Is a separate course in personal record keeping necessary?

Bookkeepers and Accountants The confusion that exists in labeling and classifying various types of office workers makes it difficult to secure accurate statistical information as to the number of persons employed in work involving a knowledge of bookkeeping. The 1950 census revealed that 1,323,864 persons in the United

¹ Adapted from the *Biennial Survey of Education in the United States 1948-1950* Chapter 5 "Offerings and Enrollments in High School Subjects 1948-1949" U. S. Office of Education

States were employed as bookkeepers, cashiers, accountants, and auditors. These figures, however, should not be interpreted to mean that all these persons necessarily perform bookkeeping or accounting functions. For example, some cashiers doubtless are required to maintain rather detailed records and may devote more time to bookkeeping duties than do persons classified as bookkeepers. Yet, many



Workers in Business Occupations (1950 Census)
Most of these business workers need a knowledge of bookkeeping

cashiers may be primarily change makers and perform few, if any, bookkeeping functions. Although the census figures may not be specific, they do indicate, at least, that many persons are employed in bookkeeping work. Each year these positions offer beginning employment opportunities to a large number of qualified persons.

Clerical and Sales Work The 1950 census also revealed that over four million persons were employed as clerical workers and approximately four million in occupations classified as selling or distribution work. For many of these jobs a knowledge of bookkeeping is highly desirable, if not essential. For example, one sur

vey² revealed that the following functions are among the thirty most frequent duties, operations, and tasks performed by general clerical workers copying data from one record to another, verifying and/or listing information from business papers, figuring extensions in bills, invoices, and statements, preparing trial balances, examining and/or sorting business papers, preparing operating and/or financial statements, keeping inventory records, making journal entries, figuring discounts, typing bills, invoices, and statements, making entries in ledger accounts. Many sales workers perform similar duties, especially those sales workers employed in small businesses.

Those familiar with office and sales work, however, recognize that not all business workers perform any or all of these clerical-bookkeeping functions, or, if they do perform such functions, they do so only to a limited extent. This does not mean necessarily that the bookkeeping course would have limited value for them. The bookkeeping course should provide them, as business workers, with a better understanding of business and of their work in relation to the other functions of business, moreover, it should help prepare them for promotion to more responsible positions.

Many of the eight million persons engaged in sales and distribution work are owners and managers of small retail establishments. Many others are looking forward to business ownership and/or management. Of the four million business establishments in this country about 90 per cent are small business concerns. Discontinuances in small businesses are high, Slaughter estimates that 'One out of two failures is caused by poor management, and the principal weakness of management by far is the lack of records and the inability of management to utilize even such information and guidance as the existing records may yield.'³

Business Management The value of bookkeeping knowledge to business executives, operators and managers is becoming increasingly recognized. At one time, only those business records desired by management were kept. Many businesses kept no records, others

² Survey of Office Duties and Employers' Recommendations for Improving High School Training. *Pittsburgh Schools* Vol XXIII pp 21-22 September-October 1948.

³ Robert E. Slaughter. *Bookkeeping and Small Business*. *Business Education Forum* vol 5 pp 11-12 December 1950.

kept records which, by present day standards, would be considered entirely inadequate. Federal and state laws, however, now require that both businesses and individuals keep financial records.

The Income Tax Laws, the Federal Insurance Contributions (Social Security) Act, the State Unemployment Insurance Act, the Federal Fair Labor Standards Act, and the Wage and Hour Laws



So any Mob & Co. Inc

Many business course graduates are employed in large offices. In these offices the work is highly specialized and each bookkeeper is responsible for only one part of the total records of the company. A class field trip to such an office will help the bookkeeping students to understand the work of recording is subdivided.

are but a few of the many Federal and state laws regulating business and prescribing the types of records that shall be maintained.

Business firms have not only been compelled to keep more adequate records but have also discovered that records are an essential management tool. To those on the executive and management levels, a knowledge of bookkeeping and accounting is becoming more and more indispensable. Moreover, many professional people—doctors, dentists, ministers, architects, engineers—are becoming increasingly aware of the need for an understanding of business rec

ords For example, considerable bookkeeping is involved in the operation of a doctor's office, and many doctors have relatively large investment funds Thus, as investors, professional people require an understanding of business records

Community Survey To assume that the same employment opportunities exist in all communities would be a contradiction to known facts Communities differ rather markedly Certainly one of the first steps in justifying the bookkeeping course in any high school is to make an occupational survey of the *employment community* Emphasis is placed on employment community, for all too frequently occupational surveys have been too narrow in scope There is an ever increasing mobility of people Limited employment opportunities in bookkeeping positions or office and sales work requiring a knowledge of bookkeeping in a given community should not necessarily be interpreted as justifying only a very small enrollment in a bookkeeping course in the secondary school Up to 50 per cent of a secondary school graduating class may obtain employment in a community other than that in which they attended school A graduate survey should be made to determine the employment community served by the school

Typical of help wanted ads that appear in any local newspaper are the following

BOOKKEEPERS—Two openings for girls 21-45 with good exp Salary exceptionally high Call MU 2-6300

OPPORTUNITY

National organization has immediate opening for the right young man age 21-31 Must be a high school graduate and able to assume complete charge of a set of books The man we are looking for will be carefully trained by a company executive and will be promoted according to ability Call KE 2-6669

COST ACCOUNTANT—A growing manufacturer has need for a young cost accountant capable of growing with our business Reply giving experience education and salary expected Write Box 267 Times

OUTSTANDING OPPORTUNITY

We have openings for 3 young men 18 to 26 to assist manager in order taking department Applicant must have neat appearance and have knowledge of bookkeeping For interview see Mr Santons 625 North St

GENERAL CASHIER—For downtown hotel Experience on payroll and payroll tax reports necessary 4½ day wk employme benefits Answer in own hand writing state age exp and salary req Box J-419 Daily Press

SECRETARY

To manage sales office for district sales manager Dictation type mimeograph must know bookkeeping Excellent opportunity national company Good salary bonus many extras Write Box 312 Courier

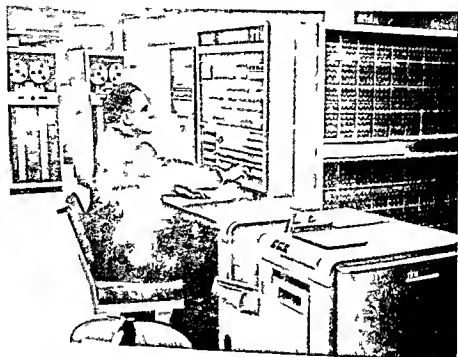
Automation What effect will automation have upon employment opportunities in bookkeeping and accounting? The application of the principle of automation to the recording functions of an office is not entirely new. For many years such labor saving machines and procedures as punch card accounting systems, payroll machines,



Many large offices use bookkeeping machines to process their payroll to handle accounts receivable and accounts payable and to keep inventory and stock records. The bookkeeping machine operator needs to understand the principles of bookkeeping. Specialized training in the operation of the bookkeeping machine may be given in school or on the job.

bookkeeping machines, and photographic systems have been available. Experience with these systems and machines indicates three things: (1) Automation will continue to reduce the amount of routine clerical work involved in keeping records. (2) The values of automation will accrue to the large business organization where the volume of work involved justifies the high expense of the machines required. Millions of small businesses employing only one or two

office workers cannot profitably use expensive automatic recording machines (3) Automation does not decrease the volume of records to be maintained. On the contrary, it makes more and better records available at a faster rate of speed. The evidence to date does not indicate that the trend toward automation in office work will decrease the employment opportunities in bookkeeping and account



International Business Machines

Electronic data processing systems are being used in some large business organizations to record and store financial data

ing nor will it decrease the need for an understanding of the basic principles of records

Considering (1) the millions of persons employed in bookkeeping accounting and clerical and sales positions requiring a knowledge of bookkeeping, (2) the many executives, managers, and small business proprietors who need an understanding of bookkeeping in order to manage their businesses intelligently, and (3) the many others in various occupations and professions who could profit from an understanding of, and an ability to interpret records, it

seems highly improbable that there are now, or will be in the near future, more students enrolled in secondary-school bookkeeping courses than is justifiable

OBJECTIVES OF BOOKKEEPING

No one bookkeeping course can fully prepare some students to assume responsibilities of a full time bookkeeping position, at the same time preparing others to perform competently the recording duties related to specific clerical and sales positions, nor can this same course provide still other students with all the bookkeeping and accounting training they need as potential managers, business owners, and investors. Even if all these types of preparation could be incorporated within one class, it would not be possible to predict which students should receive which training.

The elementary, or first year, bookkeeping course can, however, provide the basic background of knowledge of bookkeeping principles and procedures upon which the preparation for the specific areas of work in business can be developed. The additional training required for preparation in these specific areas and jobs must be provided through advanced bookkeeping courses, clerical-practice courses, on the job training, or through advanced study on the college level. The basic course in high school or college science does not claim to produce scientists, yet it is essential to the preparation of scientists. The course does provide the background upon which specialization may be based. The elementary course in bookkeeping must likewise be viewed as basic in the education of business students. Freeman expresses this point:

The elementary bookkeeping course must be so organized and taught that it will interest, appeal to and be of value to all business students in every bookkeeping class rather than be useful to only a small group of prospective accountants. Elementary bookkeeping should be a required subject for all business students without any regard to their field of specialization.⁴

Tonne gives these four objectives as typical of those mentioned in the prefaces of current bookkeeping textbooks:

⁴ M. Herbert Freeman as quoted by Herbert A. Tonne *Principles of Business Education*. Second Edition. Gregg Publishing Division. McGraw Hill Book Company Inc. New York 1954 p. 297.

- 1 To learn how to make better records for personal and home use
- 2 To be able to interpret and analyze business papers and records in the capacity of consumer
- 3 To study bookkeeping records and reports as an aid in the management of business enterprise
- 4 To train students for positions in bookkeeping occupations *

Personal Use Values These four objectives cover varying and divergent points of view. The first two emphasize the personal use, or consumer, values of the course as contrasted to the vocational outcomes identified in the last two.

Although bookkeeping has many personal use values, many teachers question whether bookkeeping can be justified primarily on



Financial Records Today everyone needs financial records—the housewife the homeowner and the professional man as well as the business manager and accountant

its nonvocational objectives. They believe that all one needs to know about the keeping of personal records may be learned in a course in general business, in consumer economics, or in a one semester course in record keeping. Boynton summarizes this point of view as follows:

Family and personal budget keeping, personal tax records and reports, the personal bank records and reconciliation statements are examples of common personal-use bookkeeping topics with which all students should be familiar. Such common personal-use areas in bookkeeping can be taught to the average student in a semester or less. It therefore does not seem a wise use of educational time to guide high school students into a full-year or semester course in bookkeeping for the sole purpose of acquiring the personal-use bookkeeping knowledges and skills that can be taught within several months.⁶

While personal-use values may not justify devoting a bookkeeping course entirely to their outcome, these values are inherent in the bookkeeping course. Every student who studies bookkeeping should not only gain an understanding of business records, but should also acquire an appreciation of the value of money management and of the need for personal records and how they can be maintained. Such outcomes, however, must be secondary to the major vocational and vocationally related objectives of the course.

Vocational Objectives Such statements as 'to train students for positions in bookkeeping occupations' and "to study records as an aid to business management" give general direction to the bookkeeping course. They are not sufficiently specific, however, to identify the course content. The bookkeeping teacher needs to know not only the broad purposes and aims of his course but also the specific outcomes that are to be achieved. The following list of objectives has been formulated to provide this specific direction for the first-year course.

1 *To provide experiences to determine the student's interest in and aptitude for bookkeeping and accounting as an occupation*

Bookkeeping and accounting work demands certain abilities and characteristics for success, and these demands should be clear to the person who desires to specialize in the field. The general business course, which precedes the bookkeeping course, should provide students with much information about business occupations and about their own aptitudes and interests. However, vocational guidance is not something that can be relegated to one course or to some one place in the curriculum and thus be separated from the total pro-

⁶ Lewis B. Boynton *Methods of Teaching Bookkeeping* South Western Publishing Company Cincinnati 1955 p. 49

gram. As students mature, their vocational interests change. Every vocational course must contribute fully to the vocational guidance of the student.

The fulfillment of the guidance objective requires that guidance outcomes be recognized as an important part of the bookkeeping course. Among other things, the course should present bookkeeping and accounting as a field of lifework, explain what types of positions exist in bookkeeping and accounting, state what knowledges and aptitudes are required, indicate how one can prepare for these types of positions, and present various ways one can enter the field of bookkeeping and accounting as a lifework.

Guidance cannot be left to accidental treatment. Ways and means of achieving guidance outcomes must be incorporated in the planning of the course.

2 To develop an understanding of the common business terms and forms

Business terms and forms bear somewhat the same relationship to the worker in business as the slide rule does to the engineer. Each is a tool of the respective occupation. To be prepared adequately for work in the business world, a student must thoroughly understand the tools of his occupation. If this understanding is not acquired in school, then it must be acquired on the job.

Many terms and business papers used by the business worker are related to the recording activities of business. To understand these terms and papers, the worker must understand the recording activities with which they are associated. For example, a student may learn to identify audit, and prepare an invoice in a general business, business arithmetic, typing, or office practice class. The invoice, however, has its origin in the records of business. Therefore, to have a thorough grasp of the function of the invoice in the business world, the student must understand its use in connection with the recording activities of business.

3 To develop skills in applied arithmetic and handwriting which are essential to recording activities

Applied arithmetic and handwriting are essential to all recording activities. The relationship between arithmetic and bookkeeping is so close that in many cases the arithmetic element cannot possibly be separated from the bookkeeping element. For example, the fun

damental equation expresses a mathematical relationship. The concept of debits and credits is in reality nothing more than addition and subtraction. Proving cash and balancing accounts are fundamentally arithmetical problems. Students may have more difficulty in performing the arithmetical calculations required in a specific bookkeeping procedure, such as the preparation of a trial balance, than they do in understanding the bookkeeping principle involved. Except where machines are used, bookkeeping work is handwritten. Handwriting, therefore, becomes a part of the recording process.

Since this close relationship exists between bookkeeping and arithmetic and between bookkeeping and handwriting, it is apparent that the bookkeeping course must provide opportunities for maintaining and developing these basic tools. They cannot be left to chance, be assumed, or be delayed.

4 To develop an understanding of fundamental principles, procedures and forms in bookkeeping as applied to records for both service and trading types of business

To fulfill this objective, the course should develop an understanding of (a) the purpose of records in business, (b) the bookkeeping equation and its relation to accounts and bookkeeping procedures, (c) the types of accounts and their functions, (d) the steps in the bookkeeping cycle, (e) the purposes and functions of books of original entry and books of final entry, and (f) the sources of data for bookkeeping entries.

5 To develop an understanding of and to provide practice in the various ways that common recording activities are carried on in business

The recording activities include the handling of cash, bank records, cashbook entries, customer and creditor accounts, payroll records, property records, invoice and sales forms and records, inventory records, and petty cash records. Students should have experience with both single entry and double entry systems. Both multicolumn and special journals should be included.

6 To develop familiarity with the kinds of data shown on the business statements and to interpret the changes reflected by these data

This objective stresses not only the preparation of financial statements but also the interpretation of such statements. Much

progress has been made in substituting actual thinking for the memorization of rules. Students are taught to interpret transactions in terms of their effect upon the fundamental bookkeeping equation and upon the financial statements. Some educators, however, believe that more should be done. Tonne expresses this view as follows:

Many instructors are minimizing interpretative training in order to have time for teaching such techniques as opening and closing accounts, which generally are handled by accountants. As interpretative bookkeeping is usually given in the second year, and for one year only, students consequently are never taught a considerable part of the subject.

It is highly desirable that many of the topics in second-year bookkeeping be transferred to the first year and that a considerable number of those now presented in the first year be postponed until the second year. Under such a schedule, students who take bookkeeping for one year only would receive the essentials from a managerial point of view and yet would not be distracted by the technical details, and the relatively few students who are particularly interested in the technical aspects of bookkeeping would be permitted to take the second year of the subject.⁷

If the bookkeeping course is to make its maximum contribution to the preparation of those students who may eventually hold executive and managerial positions, or who may become owners and operators of small businesses, emphasis certainly must be placed upon the interpretive aspect of the course. This requirement, however, does not necessitate the major revision that Tonne suggests. It requires primarily that the bookkeeping teacher take the students one step beyond that of preparing the financial statements, that is, to an analysis of what information the statements provide and how that information may be used to give direction to business activities.

7 To emphasize and develop those personal traits which are desirable for successful occupational adjustment and living.

Studies show that many business workers lose their positions or are not promoted because they are non co operative, careless, dishonest, discourteous, tactless, or unable to work with others. Every course and every teacher has a responsibility to emphasize desirable personal traits.

⁷ Tonne *op cit* p 289

This objective can be achieved in the bookkeeping course by providing students with a wide variety of experiences which require co operative planning and working, and which furnish opportunities to assume responsibility. Group work, field trips, committee assignments, record keeping for club activities, participation in work-experience programs, and co operative student teacher planning are illustrations of the types of experiences that may be used. Group discussion on such topics as the ethical practices related to cash discount, handling cash, tax payments, valuation of assets, payment of liabilities, and collection procedures would contribute to this objective.

GRADE PLACEMENT OF BOOKKEEPING

A number of factors must be considered in determining the grade placement of the bookkeeping course or courses.

Provisions for Guidance For most students bookkeeping is primarily a vocational or vocationally related course; therefore, vocational guidance should precede the bookkeeping course. One means of providing this guidance is through the general business course in which a unit on record keeping may be taught. This unit will give both student and teacher an idea of the aptitude the student has for clerical work and some index of his likelihood at success in a bookkeeping course. Since general business is most commonly taught in the ninth and tenth years, the bookkeeping course would need to be placed later in the curriculum.

Number of Years When two years of bookkeeping are taught the courses are generally placed either in the tenth and eleventh years or in the eleventh and twelfth years. When only one year is taught, the question arises as to whether the course should be placed in the tenth, eleventh, or twelfth year. As a vocational course, it should desirably be placed as close as possible to the time the students are ready to enter employment, which would be the twelfth year. However, other factors may make this plan impractical or even undesirable. The twelfth year may already be crowded with other courses. An office practice or office machines course may be offered in the twelfth year. This would build upon the bookkeeping course and thus serve as a valuable sequence to bookkeeping. In this case bookkeeping should be offered in the eleventh year.

Although some schools still offer three years of bookkeeping instruction the trend is to limit bookkeeping to one or two years. The number of schools offering a one year course is much larger than the number offering a two year course. Bookkeeping is still offered in many schools in the tenth year but the trend is to move the beginning course to the eleventh year. The first year course is followed in the twelfth year by the advanced bookkeeping course or a course in office practice or office machines.

SECOND YEAR, OR ADVANCED, BOOKKEEPING

Should more than one year of bookkeeping instruction be offered in the high school? This question must be answered primarily in terms of the number of students in a given school who could profit from a second year course. A one year course in bookkeeping should be sufficient for most students who are planning to enter office or sales work. Although some values would be obtained from a second year course, they would not justify removing another course from the student's program to make room for second year bookkeeping. However, as a result of their experiences in first year bookkeeping, some students definitely plan to make bookkeeping and accounting their career. They hope to enter positions requiring knowledge of advanced bookkeeping. Others may be planning to study accounting in college. Both groups of students would benefit from a second year course. We have as much responsibility to provide these students with the second year, or advanced, course in their potential field of work as we have to provide advanced shorthand for the stenographic student, advanced foreign language for the language student, or advanced science for the science student.

Small School In small schools the number of students who would profit from a second year course is certain to be relatively few, too few to justify the offering of an advanced course each year. There are ways, however, that these schools may meet this need if the school administration and the bookkeeping teacher use imagination and initiative.

One plan is to alternate the offering of the first year and the second year courses. Such a plan doubles the number of potential students who may be eligible to take the advanced course. Another plan is to arrange for those few advanced bookkeeping students to

take the course through a supervised correspondence program. All students taking correspondence courses (often in various fields) are brought together in one class under the supervision of a teacher. The bookkeeping teacher may be consulted when needed. A third plan is to have the advanced-bookkeeping students meet with the beginning-bookkeeping class, but to assign to the former special projects and practice-set materials. Only those students who have a special interest in bookkeeping and who have a good background in the first-year course would be permitted to register for the advanced work. Such students, with a minimum of assistance, will be able to make satisfactory progress through this individual study plan under the bookkeeping teacher's supervision.

PROBLEMS, QUESTIONS, AND PROJECTS

1. Do you agree with the following statement? "Elementary bookkeeping should be a required subject for all business students without regard to their field of specialization." Explain your answer

2. In relation to the total number of students enrolled in the secondary school, do you predict that in the future a larger or a smaller percentage of students will be enrolled in bookkeeping courses? Why?

3. What topics should be covered in a course in personal record keeping? Are these topics included in the regular bookkeeping course? Do you think a separate course for personal record keeping is justified? Why?

4. Interview three persons employed in one of the following types of work. (a) bookkeeping, (b) stenographic, (c) clerical, or (d) sales. Determine how a knowledge of bookkeeping is of assistance to each in his work.

5. What are the chief differences in the work of a bookkeeper employed by a small business and one employed by a large business?

6. How are accounting records used by business management?

7. Explain how automation reduces the amount of routine clerical work involved in keeping records. Use illustrations to support your statements

8. What specific personal qualities should one possess in order to succeed as a bookkeeper? Select one of the qualities and explain how it may be developed in the bookkeeping course.

9. Should more than one year of bookkeeping be offered in the secondary school? In what year or years should the course or courses be offered? Justify your answer

10 Prepare a poster designed to interest secondary-school youth in a study of bookkeeping.

11 How would you, as a bookkeeping teacher, proceed to determine the employment opportunities for your bookkeeping students?

CASE PROBLEMS

1 Robert Johnson and his parents come to your office to discuss whether Robert should enroll in the elementary bookkeeping course. Robert is in the tenth year of high school and has taken a college-preparatory program. He has had no business courses. School records show that he is a superior student ranking in the upper one fourth of his class. Robert's father is the president and major owner of a local firm manufacturing office furniture. The firm employs approximately two hundred workers and the future of the company appears to be good. Robert plans to enter the business when he finishes college. He is currently thinking of enrolling in the business administration course in college but he may eventually decide to take engineering, as his father is not certain whether an engineering background or a business administration background would be more helpful to Robert when he takes over the company.

Would you recommend that Robert enroll in the elementary-bookkeeping course in high school? Give the reasons for your recommendation.

2 Elementary bookkeeping has been a required course for all business students in the East Side High School. The stenographic teachers have recommended to the head of the business department of the school that bookkeeping be eliminated from the stenographic program. They have presented the following arguments in support of their recommendation.

- a Offices are becoming highly specialized, and the majority of stenographic workers are not required to keep any records.
- b Automation is rapidly taking over the recording function in business and the need for workers trained in bookkeeping is certain to decrease.
- c The time the stenographic students now spend in bookkeeping could be more profitably spent in a business arithmetic course.
- d The bookkeeping course has proved very difficult for many stenographic students. Because of the difficulty they had with bookkeeping, some students who did well in shorthand and type writing have become discouraged in continuing their business program.

Assume that you are head of the business department. What is your reaction to the recommendation? Give the reasons to support your point of view

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Handling Student Differences in Fundamentals

EACH YEAR A LARGER percentage of young people of school age remain in school and complete at least a high school education. As the number increases, the range of individual differences widens among those who elect to study bookkeeping. Bookkeeping students differ from one another in mental ability, family background, interests, hobbies, skill in reading, skill in computation, habits of workmanship and attitudes. They even vary in the reasons why they choose to study bookkeeping.

The wide differences that exist are evidenced in a number of ways. Some students make good grades in all their school subjects, others make low grades in all, still others make good grades in some subjects and poor grades in others. Some like to study and have good study habits, others find studying difficult and have not yet really learned how to study. Some are good in reading comprehension and in arithmetical ability, others are poor. Each member of a bookkeeping class differs from all other members in many ways.

STUDENT INFORMATION

Much attention has been focused on the problems of meeting individual differences. Teachers have been urged to know their students as individuals and to find out what these differences are. Some

personal information may be obtained through informal class discussion and reports, such as the discussion suggested in Chapter 7 for the first day of class. Other information may be obtained through a brief questionnaire such as the one shown on page 113. Most high schools have records of the mental abilities of their students. Many schools also have indexes of pupil abilities in such skills as vocabulary, reading comprehension, spelling, and arithmetic. Where central records on students are kept, such as cumulative record forms, all this information is available in one place. In schools where such records are not accumulated, it may be necessary to give tests to obtain all the data one needs. Tests for the measuring of mental maturity (I Q), reading ability, and arithmetical competency are listed in Appendix A.

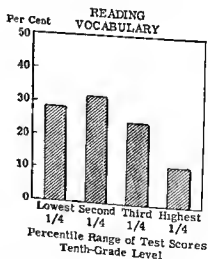
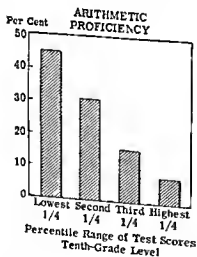
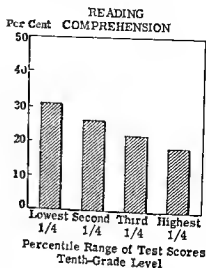
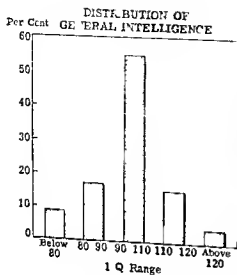
In addition to relying on test results that are of interest to all high school teachers, the business teacher may wish to use some type of clerical ability test such as the "Detroit Clerical Aptitudes Examination," "Minnesota Vocational Test for Clerical Workers," or the "Turse Clerical Aptitudes Test."¹ These tests give a measure of abilities basic to successful performance in various types of clerical work.

Knowing a student's strong points and weak points is one thing, judiciously using the information in the teaching process is quite another. A student must not be condemned to failure because he has not succeeded in the past. A low I Q, a deficiency in arithmetic, or a below-normal reading ability should represent a challenge and not a bias to the teacher. This chapter will discuss how the bookkeeping teacher may meet this challenge in coping with the wide differences existing among students in reading, arithmetic, and handwriting, and what he can do to develop good work habits. Subsequent chapters will suggest ways that individual differences may be recognized through variety in motivation, differentiated assignments, group activities, tests, visual aids, and class presentation and discussion.

READING PROBLEM

Students who can read with comprehension have less difficulty with bookkeeping than do those who are retarded in reading ability. Recent research has focused attention on the seriousness of the read-

¹ See Appendix A for a description of each test and the names and addresses of the publishers.



Qualifications of Bookkeeping Students As Reported by House in a Study of 356 First Year Bookkeeping Students Covering Six High Schools and Fifteen Bookkeeping Classes*

* F. Wayne House "Factors Affecting Student Achievement in Beginning Bookkeeping in the High School" Unpublished Doctor's Dissertation Ohio State University 1951

ing problem. In his study of factors that affect pupil achievement in bookkeeping, House concluded that

Beginning bookkeeping students vary in reading ability from a level comparable to the *lowest* 5 per cent of seventh grade students to a level comparable to the *highest* 5 per cent of *twelfth-grade* students

More than 60 per cent of the students in beginning bookkeeping do not possess enough reading ability to read and comprehend the subject matter content of the course

When measured by standardized tests, there is a significant relationship between achievement in beginning bookkeeping and reading ability *

There are three factors in bookkeeping that combine to produce the reading problem (1) the extremely heavy vocabulary load of the bookkeeping course, (2) the reading difficulty of bookkeeping instructional materials, and (3) the relatively low reading level of large groups of students in the bookkeeping course

Vocabulary Load Because of its technical nature, bookkeeping carries an extremely heavy vocabulary load. This load consists of two types of terms: technical bookkeeping terms and common terms having a special bookkeeping connotation. No authoritative list of the technical terms used in first year bookkeeping has been developed, but such a list would contain a large number of words. House² found that in one textbook there were thirty three such terms in the first chapter alone and that approximately 30 per cent of the questions on tests covering the early part of the bookkeeping course are specifically designed to test the students' knowledge of technical bookkeeping terms.

Words with Special Meanings Some words that are already a part of the vocabulary of many students have a special bookkeeping meaning quite different from the meaning the student normally associates with them.

These words may represent a greater learning barrier than the new technical terms because both the teacher and the student may

² F. Wayne House, *Factors Affecting Student Achievement in Beginning Bookkeeping in the High School*, Oklahoma Agricultural and Mechanical College, Stillwater, 1953, p. 89.

³ F. Wayne House, "Are You Solving the Reading Problem in Bookkeeping?" *Business Education World*, vol. 33, p. 291, February 1953.

assume that the student understands these terms. A partial list of such words includes

abstract	drawing	record
acceptance	entry	register
account	extend	rule
amount	extension	ruled
balance	footing	ruling
capital	honored	schedule
cash	item	statement
charge	overhead	terms
column	period	time
credit	post	total
	prove	

Observe that each word in the list has more than one meaning. For example, "charge" has one meaning on the football field and quite another in the bookkeeping classroom. "Post" means one thing to the bookkeeper and another to the farmer.

Interchangeable Terms The vocabulary problem is further complicated by the number of bookkeeping terms used interchangeably. A few of these terms are given in the following list. Some have different precise meanings, but few teachers are aware of the differences and therefore tend to interchange the terms freely in class discussion.

accounting period, fiscal period
 analysis paper, work sheet paper, working paper
 bad debt, bad account, uncollectible account
 permanent assets, fixed assets
 cash on hand, cash balance, balance on hand
 current assets, liquid assets
 bill, account, invoice
 proprietorship, net worth, capital
 maturity date, due date
 minus asset, valuation account, reserve account
 nonoperating expenses, financial expenses
 net income, net profit
 perpetual inventory, book inventory
 principal of note, face of note

profit and loss statement, operating statement, income statement,
income and expense statement
liabilities, debts, obligations
statements, financial reports

More confusion results from the tendency to state transactions in different ways, for example, sold merchandise, sold a bill of goods, received an order, sold goods on account, sold goods on credit, sold goods for cash, sold goods. Terms such as the following are frequently used interchangeably in instructions "record the transaction", "enter the transaction", "journalize the transaction", or "check," "verify," "audit," "prove" the invoice

READING DIFFICULTY OF MATERIALS

Sentence length and syllable intensity are two commonly used measures of reading difficulty. The longer the sentence and the higher the syllable intensity, the more difficult the reading.

A common goal in business letter writing is to have 70 per cent of the words one syllable words. Such magazines as *The Saturday Evening Post* and *The Ladies Home Journal*, which are written for a wide range of adult readers, strive to maintain an average sentence length of approximately twelve words and a low syllabic intensity.

A research study of two high school bookkeeping textbooks reported that the average sentence length was 21.6 words in one text and 16.9 in the other. The syllabic intensity of each text was found to be approximately 1.6. When these data are plotted on Flesch's "Reading Ease Chart," the text material scores as "Fairly Difficult." It is equivalent to the reading difficulty of such magazines as *Harper's Magazine*, *The New Yorker*, and *Business Week*.

The reading difficulty is further verified by House, who, in interviewing bookkeeping students, found that nearly half of them reported that they did not finish reading textbook assignments because they could not understand what they were reading.

Range of Reading Level of Students The students in any bookkeeping class represent a wide range of reading levels. House⁴ found that 62 per cent of the 357 students included in his study were below

⁴ *Ibid* p. 292 February 1953

the average tenth grade student in vocabulary proficiency as measured by the "Co-operative Reading Comprehension Test,"¹ and 60 per cent were below the average tenth grade student in reading comprehension. He concludes that since a tenth grade reading level is considered essential for comprehending material that is 'Fairly Difficult' only 40 per cent of the students possessed enough reading ability to read and comprehend satisfactorily the subject matter in book-keeping.²

Doubtless many factors are responsible for the low reading level of our students. Fixing the blame for this unfortunate condition does not solve the problem, however. The bookkeeping teacher must recognize the reading limitations of the students, the heavy vocabulary load of the course, and the reading difficulty of the text materials, and must organize the instructional program accordingly.

Suggestions for Meeting the Reading Problem The following paragraphs contain some helpful suggestions to the teacher for solving the reading problem.

1 *Apply sound principles of learning to vocabulary building* Memorization of word lists and definitions as a means of developing vocabulary has been rather generally discredited. Devoid of association with real experiences, memorization is but temporary learning. Words become a permanent part of one's vocabulary only when they are given meaning through experiences or association with experiences.

For example, the word "assets" and its definition, "things owned which have a money value," have little meaning to the student until it is associated with things that are real and meaningful, such as a bicycle, a radio, a wrist watch, or clothing. When the term is associated with tires, gasoline, oil, auto supplies, or delivery truck, it becomes meaningful to the boy who works in the filling station.

"Merchandise inventory" takes on added meaning when the class makes a field trip to a store at inventory time and observes the store employees counting and recording the merchandise on hand.

The term "dividends" has more meaning if, through dramatization, the class has set up a corporation and has participated in the

¹ See Appendix A for description of test
House op cit p. 292

dramatized situation to determine the amount to be paid to stock holders from profits

To develop a technical bookkeeping vocabulary, students must be assisted in associating bookkeeping terms with those experiences which they have had or are having outside the classroom. In addition, the in school learning situation should provide as many additional experiences as possible

2 *Prepare vocabulary lists* Analyze each chapter or unit before it is presented, and prepare a list of technical bookkeeping terms that are introduced for the first time. Also, prepare a list of common words or phrases appearing in the chapter that have a special bookkeeping connotation. These lists identify the words that must be emphasized and considered in the lesson planning

In planning the lesson, the teacher should study each term to determine what experiences the students have had that might be associated with the term. For this reason, the teacher should obtain, early in the course, as complete an inventory as possible of the students' work and business experiences and of the occupations of the parents. Through this information, it may be possible to associate the new bookkeeping terms with experiences the students have had. To be effective, teaching must begin on the level of the learner—it must be based upon his past experiences

3 *Avoid confusion by being consistent in terminology* A number of terms that are used interchangeably in bookkeeping have been pointed out. Confusion can be avoided if the teacher is consistent in the terminology used in the introductory weeks of the course. Before the completion of the course, he may explain and interchange such terms as "accounting period" and "fiscal period," or "account sales," "credit sales," "sales on credit," "charge sales," "sales on account." However, the use of these multiple terms when the student is first being introduced to the topic greatly increases the difficulty of the learning problem

4 *Make the bookkeeping class period an instruction period not just a recitation and-testing period* Many teachers follow the practice of assigning new material to be read and studied from the text. The following day's class period is devoted primarily to questioning and testing the student's understanding of the assigned read

ing. Such a plan is certain to result in low class morale and a high dropout and failure rate as it ignores the reading problem.

After a topic has been explained, illustrated, and visualized in the classroom and after new bookkeeping terms have been carefully presented, students may profitably turn to the text for further study and clarification. The textbook then becomes a valuable and intelligible reference source.

5 *Take time to show students how to read and study the text.* Bookkeeping requires a different reading pattern from that to which most students are accustomed. Most bookkeeping texts are very well illustrated. The illustrations are keyed to the reading and must be included as part of the reading pattern. The teacher must help the students study an illustration so that they see in it what is there. For example, students should be directed to observe that the heading of the illustrated balance sheet contains three parts, that the balance sheet is divided into two sides, that the assets are listed on the left side and the liabilities and proprietorship on the right, that the totals of the two sides are the same and are written on the same line, and other information. One way to direct the students' attention during home study is to provide a series of questions to be answered about an illustration. On what date was the balance sheet prepared? Where did you find that date? On which side are the assets listed? Is the total of the assets the same as the total of the liabilities and proprietorship? If the textbook does not provide such questions, they may be readily constructed and duplicated.

Time should also be spent in assisting students in reading transactions. Daily oral reading demonstrations are, therefore, an essential part of the lesson plans for the first few days of the bookkeeping course. Those students who have the greatest difficulty in reading might be encouraged to use a blotter or a sheet of paper as a reading guide.

6 *Use learning guides as a learning aid and not as a unit or chapter test.* The workbooks that accompany most bookkeeping textbooks provide learning or study guides for each unit or chapter. When these learning guides are used as unit tests—and this is frequently done—the student is being denied a valuable learning aid.

Correctly used, the learning guide is completed by the student as he reads the text. The guide focuses the student's attention on the

text material, thus, it aids him in his reading. Class demonstration must be used to show how to use the learning guides correctly.

Summary The heavy vocabulary load, the reading difficulty of the textbook, and the low reading level of students represent barriers to the learning of bookkeeping. These barriers become formidable to many students when the bookkeeping course is kept largely on the "verbalized level," as opposed to the "experience level." Reading drill and rote memorization of definitions are not enough. The solution is to tie the bookkeeping vocabulary to the experiences students have had and to provide, as part of the bookkeeping course, as many additional experiences as possible.

ARITHMETIC PROBLEM

Many students enter bookkeeping with an arithmetic deficiency. In his study of 357 high school bookkeeping students, House⁷ found that 75 per cent were below the average tenth grade student in arithmetic. He also found that beginning bookkeeping students vary in arithmetic ability from a level comparable to the lowest 1 per cent of seventh grade students to a level comparable to the highest 5 per cent of twelfth grade students.

What arithmetical skills are required for the successful study of bookkeeping? Rosenberg claims that "Bookkeeping is 75 per cent arithmetic and 25 per cent application of arithmetic."⁸ While this is an extreme point of view, it does serve to focus attention on the role of arithmetic in bookkeeping. This role has been interpreted by some schools as justification for a course in business arithmetic as a prerequisite for admission to bookkeeping. There is no evidence, however, that a business arithmetic prerequisite is the solution to the arithmetic problem in bookkeeping. Studies show that students who have had business arithmetic rate only slightly higher in bookkeeping than those who have never had a business arithmetic course. Research further shows that the study of business arithmetic has only a slight bearing on the mastery of the arithmetic of bookkeeping.

⁷ F. Wayne House, *Factors Affecting Student Achievement in Beginning Bookkeeping in the High School*. Oklahoma Agricultural and Mechanical College, Stillwater, 1953, p. 49.

⁸ R. Robert Rosenberg, "Capable Business Arithmetic Teachers Make Bookkeeping Instruction Easy," *National Business Education Quarterly*, vol. 9, p. 19, December, 1940.

Certain aspects of arithmetic can be more effectively taught in the bookkeeping course than through a separate business-arithmetic course, for it is then that arithmetic becomes to the student a means to an end and not an end in itself. The student sees the need for arithmetic knowledge perhaps for the first time. Establishing a need is the first step toward achieving mastery.

Satlow identifies the arithmetical skills required in bookkeeping to be

- 1 Reading numbers
- 2 Entering numbers in columns
- 3 Adding and subtracting for the purpose of determining an account balance and for arriving at a trial balance
- 4 Computing extensions on invoices
- 5 Determining the purchase price when a trade discount or discount series is allowed
- 6 Determining the last date in a discount period
- 7 Determining the net amount to be paid by one who avails himself of a cash discount
- 8 Computing the various deductions on a modern payroll by use of a table and by percentage calculation
- 9 Determining the proceeds of a discounted note (a) one's own note, (b) a customer's non-interest-bearing note, and (c) a customer's interest bearing note
- 10 Estimating depreciation
- 11 Determining the estimated loss on doubtful accounts
- 12 Computing the merchandise turnover
- 13 Computing the working capital
- 14 Arriving at the capital ratio and other managerial ratios
- 15 Determining the good will of a business *

Most items on the Satlow list require only a mastery of arithmetic fundamentals. The average student should have acquired enough arithmetic skills in the elementary grades to pursue high school bookkeeping with profit, provided some arithmetic is taught in bookkeeping. Whatever arithmetic the student may have failed to learn can be acquired functionally in his bookkeeping.

* 1 David Satlow "What Can We Do About Arithmetic Skills of Bookkeeping Students?" *Business Education World* vol 32 p 386 April 1952

Suggestions for Handling the Arithmetic Problem The suggestions given in the following paragraphs will be helpful to the teacher in handling the arithmetic problem

1 *Test to identify students with arithmetic deficiencies* The school files may show the student's grade level in arithmetic as obtained through standardized arithmetic tests While this information is important, it is more valuable to know the specific fundamentals in which a student is below standard, such as addition, subtraction, multiplication, division, decimals, percentage interest, and problem solving A student may rank high in one fundamental and low in another If ready-made tests are not available, the resourceful book-keeping teacher can easily construct and administer tests in each of the fundamentals which will spot those students in greatest need of assistance

The testing will probably show that the class is roughly divided into two groups The one group of students needs merely an opportunity for review and drill These students understand the basic arithmetical concepts but need a chance to refresh their memory and require review and drill to increase their speed and accuracy The other group consists of those who need far more than a review These students need the opportunity to develop basic understandings of numbers, fundamental processes, fractions, decimals, percentage, and other arithmetic skills These are the students who need reteaching

2 *Plan instruction in arithmetic* Arithmetic instruction can not be left to chance A planned program of review and remedial instruction must be provided not only for those students who need merely an opportunity to review but also for those students who need reteaching

The following step by step plan might be used in reviewing and reteaching addition Similar sequences can be used to review and reteach subtraction, multiplication, division, fractions, decimals, and percentage ¹⁰

STEP 1 **TEACH ADDITION FACTS** There are eighty one basic addition facts from $1 + 1$ to $9 + 9$ Students are probably weakest,

¹⁰ For helpful suggestions see *Remedial Learning in Arithmetic* Ch 5 *The Fundamental Processes in Business Education* (*The American Business Education Yearbook* vol XII 1955) pp 71 123

2	9	3	8	3	9	4	7	4
9	2	8	3	9	3	7	4	8
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
8	4	9	5	6	5	7	5	8
4	9	4	6	5	7	5	8	5
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
5	9	6	6	7	6	8	6	9
9	5	6	7	6	8	6	9	6
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
7	7	8	7	9	8	8	9	9
7	8	7	9	7	8	9	8	9

STEP 2 TEACH HIGHER DECADE ADDITION Students who know well the basic addition facts sometimes start counting as soon as they get into the higher decade level, such as adding the illustrated column below.

4
9
8
3
7
6
5

4 <u>9</u>	14 <u>9</u>	24 <u>9</u>	64 <u>9</u>	84 <u>9</u>	34 <u>9</u>	54 <u>9</u>	74 <u>9</u>
3 <u>8</u>	13 <u>8</u>	23 <u>8</u>	53 <u>8</u>	33 <u>8</u>	83 <u>8</u>	63 <u>8</u>	73 <u>8</u>
5 <u>8</u>	15 <u>8</u>	35 <u>8</u>	85 <u>8</u>	45 <u>8</u>	65 <u>8</u>	75 <u>8</u>	25 <u>8</u>

STEP 3 DEVELOP ATTENTION SPAN Students differ considerably in the duration of their spans of attention. The third step in reviewing and reteaching addition is to provide drills designed to increase the attention span. These drills should start with columns of three numbers and then progress to four, five, six, and seven until ten numbers are reached.

	3	9	7	2	21	71	29
Three numbers	7	6	8	8	46	82	86
	8	5	1	5	34	75	47
	<hr/>						
Four numbers	2	2	3	7	15	86	65
	9	5	8	6	27	27	24
	1	8	2	5	52	93	47
	7	6	9	8	84	89	82
	<hr/>						

and so on to ten numbers

STEP 4 EMPHASIZE CHECKING OF ADDITION As soon as students are adding more than two number combinations, the importance of checking the accuracy of the sum should be emphasized. The best addition check is to add again but in the opposite direction. In all drills, starting with Step 3, students should be required to add the columns down and then re add upward as an addition check. In setting an example for the students, the teacher should be cautious to observe this same practice in chalkboard demonstrations.

STEP 5 DRILL ON ADDENDS OF UNEQUAL LENGTH Most of the additions in bookkeeping consist of numbers similar to those in the example below. Much of the difficulty in such addition is avoided if the numbers are written neatly, with uniform spacing, and in a straight column (decimal points must align). Drill designed to emphasize these three points should be provided.

21
34 74
127 85
6 51
31 10
84

3 *Relate the arithmetic instruction to the bookkeeping topic*
Before a unit in bookkeeping is presented, it should be examined

and the required arithmetical calculations determined. Plans then should be made for whatever class, group, or individual instruction is necessary.

If the need for arithmetic skill is to grow out of bookkeeping, the bookkeeping presentation should precede the arithmetic presentation. For example, before discussing the calculation of interest, the teacher may first discuss the recording of transactions involving notes and interest and then direct attention to the calculation of interest.

There are, however, certain bookkeeping transactions, such as recording depreciation and adjusting the supplies account, for which the completion of the arithmetic calculation is essential to an understanding of the bookkeeping entry. In such transactions, the arithmetic would be presented first, followed by an explanation of the bookkeeping entry.

After the fundamentals have been carefully presented and reviewed, daily warmup drills in arithmetic may be used. The drill sheets are passed out as the students enter the room, and are used in somewhat the same manner as a warmup drill in typewriting. The results are the same: immediate class organization, effective use of all available class time, and time for the teacher to take care of the necessary clerical details at the beginning of the period.

4 *Separate the arithmetic problem from the bookkeeping problem.* When bookkeeping principles and procedures are being presented, they should be demathematized in so far as possible. This may be done by the use of only round numbers in the initial presentation. Round numbers permit the students to concentrate on the procedure or principle at the same time preventing them from being distracted by the arithmetic involved. Another suggestion for demathematization is to give the students the arithmetical solutions related to the transaction so that they will not need to make the calculations—for example, the amount of discount, the amount of interest, the balance due, the account balance, the total of the column, the sum received from a customer. After the student has recorded a number of entries in which the arithmetic has been done for him in advance, he may be given several transactions in which he is required to do the necessary arithmetical calculations. The arithmetic solutions may be placed on the chalkboard so that those students who are not

too sure of themselves may refer to them and use them as a guide. After the application of correct bookkeeping procedures to problem situations has been learned, students should be expected to cope unaided with both the bookkeeping procedures and the arithmetic computations.

5 *Use only realistic arithmetic problems in bookkeeping* Unfortunately, arithmetic problems which are unnatural and quite unrealistic in business are sometimes introduced in the bookkeeping classroom. An example of this type of problem is the transaction where the student is asked to record a check. The check is for a net figure after a cash discount has been deducted. The student is required to determine the amount of discount and the gross amount, working from the net cash figure only. Such a transaction rarely if ever occurs in business. Or, the student is told that the company receives a check in payment of an invoice less discount, without being given a copy of the check or being told the amount for which it is drawn. Such problems are unrealistic and consume time that might be more profitably used.

While some of the more able students may be capable of completing complicated interest and bank discount problems, many will experience difficulty and will spend much time in trying to perform the calculations. The business way is to use interest and discount tables. The use of such tables in the classroom not only simplifies the arithmetic problem and saves time, but it also provides training in accordance with business practice.

6 *Teach horizontal addition and subtraction* Across the page addition and subtraction on payrolls and in multicolumn journals, and determining account balances are examples of opportunities in bookkeeping to use horizontal addition and subtraction. Most students have been taught and conditioned to add vertical columns of figures and to place the subtrahend below the minuend when subtracting. For this reason many students do time-consuming recopying of figures in vertical columns before making additions and subtractions. If this new arithmetic skill—cross addition and cross subtraction—is to be developed, a pattern of systematic drill must be planned.

7 *Write legible numbers* Many arithmetical errors in bookkeeping may be traced to the failure of students to write numbers

legibly and properly aligned in columns. Additions are certain to be incorrect when 7's are mistaken for 9's, 4's for 7's, and 2's for 3's, and 8's for 0's. Suggestions for improving the writing of numbers are presented on pages 39-40.

8 *Test arithmetic separately.* A bookkeeping examination may be more a test of arithmetic than of bookkeeping. For example, a test may provide a list of accounts and account balances and the student is requested to prepare a work sheet, adjusting entries, and financial statements. The account balances are realistic numbers. For the completion of each part of the test, long and accurate additions are required. Unsatisfactory results on the test may be caused by a lack of understanding of the bookkeeping elements (identification of account balances, classification of accounts, adjusting entries) or by incorrect addition. Thus, the result of the test is not very helpful to either the student or the teacher in determining what the student knows and does not know. The arithmetic element can be largely eliminated from such a test by using round numbers for account balances and by keeping the number of accounts to the necessary minimum, thus greatly simplifying the addition process. Another illustration is the test that requires the student to calculate interest or trade and cash discounts before recording the transactions. The arithmetic element in such a test can be eliminated by giving the student the amounts of the interest or discounts.

9 *Provide adding machines.* Students are frequently called upon in bookkeeping classrooms to add long columns of figures mentally. With few exceptions such additions in business would be done on an adding machine on which the totals could be verified. Adding machines should therefore, be provided in the classroom for student use. A minimum of one adding machine for each six students is recommended.

If adding machines are provided, *students must be taught when and how to use them.* Students frequently wait in line for their turn to add only three or four numbers on the adding machine. They must be taught when it is more economical of time to add mentally rather than on the machine. A plan must be in operation to insure proper use of the machines.

Class time must be used to instruct students in the correct operation of the adding machine. Such matters as the following should



Student using the adding machine to total her trial balance. The adding machine tape is attached to the bookkeeping statement for submission to the teacher, thereby insuring the correct use of the adding machine.

HANDWRITING PROBLEM

The idea that practice makes perfect does not appear to apply to penmanship. The more a person writes, the worse his handwriting may become. Legible handwriting is extremely important in bookkeeping. Since many students reach the bookkeeping class deficient in handwriting, the bookkeeping teacher must recognize the problem and do something about it. The teacher who takes the attitude that he is in the class to teach bookkeeping and not handwriting and whose only solution to the handwriting problem is to refuse to accept any papers that do not meet his standard has too narrow a concept of his function as a teacher.

Causes of Poor Handwriting Some of the reasons why students do not meet acceptable standards of legibility and neatness in their work are discussed below.

1. *Carelessness and haste* Under pressure of taking hurried classroom notes, of timed examinations, and of limited study time, students form the habit of writing hurriedly and all too frequently develop sloppy habits of writing.

2. *Improper writing tools and writing conditions* Use of a wide pointed pen, a leaky pen, writing in a cramped position or while lounging in an easy chair, poor paper, and failure to use a ruler or blotter are factors contributing to poor penmanship.

3. *Unusual style of writing or forming of letters* Some students have developed an unusual method of writing numerals and capitals. They use curlicues or give special shapes to numerals and

capitals, although such flourishes may be individualistic, they are illegible to everyone but the writer

4 *Writing too large* When writing is too large or too thick for the printed spaces on the bookkeeping paper, it tends to give a sloppy appearance. Failure to place figures in vertical alignment in columns gives the impression of carelessness.

Suggestions for Improvement of Handwriting What can be done in the bookkeeping classroom to improve handwriting? Difficult as the task may seem, it is not formidable. About 50 per cent of the writing done in bookkeeping is the writing of numbers. There are only ten digits, 0 to 9. To learn to write ten digits correctly should not be an unsurmountable task for the high school student. The problem is not even a difficult one, it is basically that of making sufficient distinctions so that 1's do not resemble 7's, 9's do not resemble 0's, 2's do not look like 3's, and 3's do not look like 5's.

Numbers and account titles constitute most of the writing done in bookkeeping. There are no long sentences to write. Application of a few simple suggestions should serve to make account titles fairly legible. The objective in the bookkeeping class is not to make skilled penmen out of the students, nor is it to develop one uniform writing style for all. Any plan to reform students and make all of them conform to some specific style of writing will defeat its purpose. The one standard should be that of obtaining legible and neat work.

Helpful materials may be obtained free of charge or at a very nominal cost from the Handwriting Foundation, 1426 G Street, N.W., Washington 5, D.C.

1 *Obtain a sample of the student's best handwriting* Ask the students to copy a series of transactions on journal paper. Emphasize that the copy is to be written in their neatest and clearest handwriting and that they are to take all the time necessary. This sample may serve two purposes. First, it may help to identify those students who have peculiar writing styles and those who have illegible handwriting, and to determine whether this illegibility is in writing words, figures, or both. Second, if the sample is filed, it may serve as evidence in a teacher-student conference to show the careless and lazy student just what he is capable of doing when he tries.

2 *Set a good example* Neat chalkboard illustrations and neat

3 *Insist that students use proper tools* To permit students to work with poor tools is no kindness. Students should be urged to have a good pen with a medium fine flexible point, easily flowing ink, a sharp pencil, a metal edged ruler, and a blotter. Students can not produce neat work with a pen that leaks, leaves blots on the paper, and writes lines and figures much too thick for the spaces on the bookkeeping paper. The use of a blotter when writing in ink should be required. A ruler must be used in making all rulings—nothing gives a page of bookkeeping work an untidier appearance than freehand rulings. Students should be taught how to use a ruler in making both single and double rulings.

Sufficient writing space to facilitate good handwriting should be provided in the classroom and in the study hall. Special facilities can be provided for left handed students. Tablet arm chairs designed for left handed writers are available.

4 *Assist students in diagnosing their handwriting* The four *s*'s of handwriting are *shape*, *size*, *slant*, and *spacing*. The correcting of only one of these factors may change a student's handwriting from poor to acceptable.

Letters in each class or group like *a-o m l h k*, or *j g y*, should be made the same relative size. The writing of most students in beginning bookkeeping tends to be too large for entries in bookkeeping forms. All downstrokes should be parallel and thus have the same *slant*. The slant may be backhand, vertical, or forward. The teacher should not try to change the basic slant, he should

¹¹ See Appendix B for name and address of distributor of wall cards.

merely strive for uniformity of slant *Spacing* between letters, words, and margins should be uniform

5 *Encourage some students to print* Those students requiring more than simple remedial work to improve their handwriting, may be encouraged to do the little writing required in bookkeeping by printing or lettering Boynton suggests

It has been proven that many students with handwriting difficulties can learn to letter much quicker than they can be taught to correct their handwriting faults Bookkeeping teachers who find "hopeless" handwriting cases in their classes might do well to help and encourage such students to shift to lettering instead of continuing to use script or writing of the ordinary cursive form Lettering is a frequent requirement for filling-in forms in many businesses This fact lends support to business students learning to write by lettering ¹²

6 *Refuse to accept work carelessly done* If the teacher's standard of legibility and neatness is reasonable, students will strive to meet the standard The teacher, however, must be realistic and reasonable Unfortunately, some teachers refuse to accept any papers that do not measure up to a certain standard The unacceptable papers are handed back to the student, who is required to redo them as many times as is necessary to make them acceptable This plan frequently results in students' painfully redoing papers, in becoming discouraged, and in developing a dislike for bookkeeping Such a plan penalizes the student who has not yet developed good work and writing habits but it does not help him It is a negative approach to the handwriting problem To refuse to accept carelessly done work from those who can do good work is justifiable, but the rule must be applied with discrimination

A sample handwriting analysis chart is shown on page 42 This chart may be duplicated for use with students' homework After a copy has been checked, it may be attached to each student's homework to direct attention to handwriting points requiring observation and correction

Pen vs pencil Most meetings on bookkeeping teaching problems eventually get around to a discussion of whether students

¹² Lewis D Boynton *Methods of Teaching Bookkeeping* South Western Publishing Company Cincinnati 1955 p 22

should be required to use a pen or be permitted to do their bookkeeping work in pencil. There is no one answer to this persistent question. Convincing arguments may be made for use of either the pen or the pencil. Most teachers, however, will accept the proposition that since both pen and pencil are used in business but for

HANDWRITING		WRITING OF NUMBERS	
1	Shape of close ends	1	Slant of numbers
2	Shape of end ends	2	Too large for space
3	Shape hook letters	3	Too small
4	Shape retrace letters	4	Not in line
5	Shape round letters	5	Poorly formed
6	Size too large	2 s	
7	Size too small	3 s	
8	Slant	4 s	
9	Spacing between letters	5 s	
10	Spacing between words	6 s	
		7 s	
		8 s	
		9 s	
		0 s	

OTHER POINTS	
Pencil footings too large	
Rule lines poorly made	
Incorrect abbreviations	
Year above date columns too large	
in ss ne	

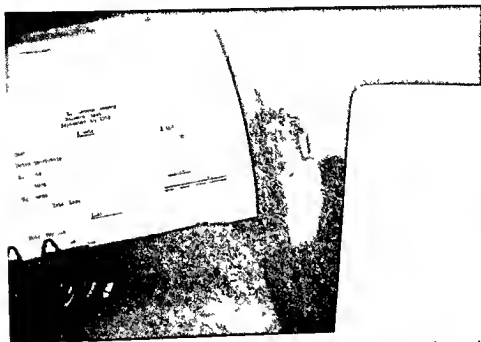
Suggestions _____

Handwriting Analysis Chart

different records both should be used in the bookkeeping classroom. Those business records which are relatively permanent are generally prepared with the pen on the typewriter, or on the bookkeeping machine. Records of a temporary nature are frequently prepared in pencil. If this principle were applied to the bookkeeping class, students would use a pen in recording in journals and ledgers, in writing checks and notes and in making the final financial statements and reports. Pencil could be used in making work sheets, preliminary trial balances, and rough draft financial statements and reports. The time wasting practice of doing work first in pencil and then recopying it in ink could better be devoted to a more profitable learning activity.

The possibility of encouraging students to submit certain book

keeping papers in typewritten form should not be overlooked. Many business papers and reports in bookkeeping such as checks, invoices, financial statements and supporting schedules, and statements of accounts would be typewritten in most businesses. If students can type and have access to typewriters, why not require



Students who can typewrite should be encouraged to prepare financial statements and other reports in typewritten form. This practice provides an opportunity to discuss correct form for financial statements and report writing and to integrate typewriting skills with the bookkeeping course.

these papers and reports to be submitted in typewritten form? Such a practice would make both the bookkeeping course and the type writing course more functional.

GOOD WORK HABITS AND ATTITUDES

The importance of good work habits and proper attitudes can not be overestimated. Many articles have been written stressing their significance and they are included in every discussion of the objectives of business education. Surely in no subject are these qualities more essential than in bookkeeping. Among the qualities

usually mentioned as being of greatest significance are correct study habits, regularity and punctuality of attendance, planning correct use of one's time organizing working tools and materials, neatness and accuracy ability to follow instructions, acceptance of responsibility and care with details All teachers should remember that students develop attitudes of some kind in every class, such attitudes may be good indifferent, or undesirable, but they will be developed

Binger suggests that teachers cannot attack the problem of improving attitudes in a general way—they must have *specific plans and projects in mind* "Even though teachers want to work on all attitude problems at any opportune moment with any available tool we may obtain even better results if we select for concentrated work certain outstanding problems" 11

What the Teacher Can Do Several suggestions have been used with considerable success by many bookkeeping teachers Some represent rather general rules or teaching procedures, others are quite specific

Correct study habits Probably a good starting point is that of assisting and encouraging all students to develop good basic study habits Space does not permit a detailed discussion of this topic, but some principles are so basic that they are reviewed here for the purpose of recalling them to the reader's attention

- 1 Set aside a definite time for studying and stick to it
- 2 Be sure to have good light and ventilation
- 3 Study at a desk or a table not in an easy chair or on a bed
- 4 Read the entire sentence See if you can explain in your own words what the sentence or paragraph says
- 5 Make notes of difficult points and ask for help during class discussion periods
- 6 Study the textbook illustrations thoroughly until you understand them

Teachers should be alert during the supervised study or laboratory portions of bookkeeping classes to observe students' study habits and to offer constructive suggestions for their improvement

¹ Dorothy Binger "How a Bookkeeping Project Helped to Improve Attitudes" *Business Education Forum* vol 7 p 12 December 1952

Use guiding principles to develop accuracy Knepper¹⁴ suggests that we may encourage and build habits of accuracy through the use of guiding principles or slogans. Some that have proved helpful in his classes are listed here:

- 1 Test your results for reasonableness
- 2 In every bookkeeping entry the total debit amounts must equal the total credit amounts
- 3 Verify or prove your calculations
- 4 Too much haste may change to waste
- 5 Your first calculation may be correct, but do not assume it until you have proved it
- 6 You save more time by avoiding errors than by hunting them

Knepper recommends that the slogans be written on the chalkboard in a "one a day" fashion and discussed. He also suggests that they be prepared in chart form and displayed where they may be referred to at the opportune moment.

Set the pattern Teaching by example is always better than teaching by precept. Teachers should set the pattern by being courteous, pleasant, and prompt in starting and closing classes and also in marking and returning papers. They should write legibly on the chalkboard and be neat both in appearance and in workmanship.

Fair and friendly relationships The importance of student-teacher relationship is stressed by Cowan. He says, "We cannot get his [student's] confidence unless he is convinced that we are interested in him, not in just our own success on the job. In those whose confidence we secure, perhaps we can inspire improvement of work habits, if we cannot get their confidence we definitely can not inspire improvement."¹⁵

Sometimes an attitude can be changed for the better if the teacher goes out of his way to be friendly with a problem student. Emotions are contagious, and an icy attitude on the part of the teacher will usually make even more unhealthy a poor student attitude. Stu-

¹⁴ E. G. Knepper, "How I Encourage the Growth of Accuracy," *Business Education Forum*, vol. 7, p. 21, December 1952.

¹⁵ Harold B. Cowan, "Good Work Habits Make Good Bookkeepers," *Business Education Forum*, vol. 8, p. 32, May 1954.

dents will usually follow the teacher's lead in playing fair and in being friendly

Use praise liberally avoid censure Teachers must be alert to use praise generously whenever students do work correctly. Every adolescent is hungry for recognition and praise. False praise, though, is never appreciated. Stutsman points out that the corollary of giving praise is that of expressing disappointment (not censure) when the student slips back into a former unsatisfactory attitude. We try not to let people down who seem to have faith that we can live up to an ideal which they have held up to us. The fact that someone believes in us keeps many of us going when things become almost unbearable.

Other ideas Some other suggestions that have proved helpful in building desirable work habits and attitudes in bookkeeping classes are the following:

- 1 Let the students participate in setting standards and in preparing check lists for use in auditing their work
- 2 Use student audit committees
- 3 Set definite goals. The student's attitude problem may be due to ignorance of what the teacher considers to be acceptable work or action
- 4 Use check lists to show progress in correcting habits and attitude formation¹
- 5 Apply business standards to the classroom through holding students accountable for unauthorized absenteeism, and give instructions once only
- 6 Encourage students to take notes and work problems at their seats as you work at the chalkboard
- 7 Emphasize desirable habits as well as correct solutions in practice set work
- 8 Give more credit for a lesser amount of work carefully done than for a larger amount poorly done¹⁷

¹⁶ Galen Stutsman "Mechanical and Faulty Attitudes Can Be Eliminated in Bookkeeping" *Business Education Forum* vol 7 p 13 December 1952

¹⁷ Hamden L. Forkner "The Student Auditing Committee Develops Habits of Accuracy and Attention to Details" *Business Education Forum* vol 7 p 14 December 1952

¹ See Appendix C for example of check list

PROBLEMS, QUESTIONS, AND PROJECTS

1 If you had to group students enrolling in beginning bookkeeping into several classes, what standards would you use as the basis for grouping? Consider such factors as mental maturity, reading ability, arithmetic competency, scores on clerical aptitude tests, interest in bookkeeping, occupation of parents, and other factors. Defend your answer.

2 Examine a bookkeeping textbook and list the new bookkeeping words and terms that are introduced in each of the first four units or chapters.

3 Review available reading tests and select a test that you would recommend to be used to measure the reading ability of a high school bookkeeping class. Explain the basis upon which you selected the test.

4 Select a bookkeeping textbook and determine the average sentence length and syllable intensity of the first chapter in the text.

5 Do you agree with the statement that "certain aspects of arithmetic can be more effectively taught in the bookkeeping course than through a separate business-arithmetic course"? Explain your answer.

6 Examine the first ten chapters of a bookkeeping textbook and prepare a list of the arithmetic skills and knowledges that a student would need in order to do bookkeeping work satisfactorily.

7 Construct a test that you believe will measure a bookkeeping student's skill in addition, subtraction, multiplication, and division. If possible, try out your test on a group of high school students or on the members of your class.

8 Under what circumstances do you believe a teacher is justified in refusing to accept work on the basis that it indicates carelessness?

9 How would you handle a situation in which a student insists on doing the problem work first in pencil and then copying it in ink before submitting it to you?

10 Assume that a large percentage of the students in your bookkeeping class are regularly late in turning in their homework assignments. Outline the steps you would take to correct the situation.

CASE PROBLEMS

1 The bookkeeping teacher in Hillsdale High School administered an arithmetic test to his bookkeeping class the second day of school and found that many of the students had difficulty with simple arithmetic and that most of the students had difficulty with some aspects of arithmetic. The teacher decided to devote the first six weeks of the bookkeeping

course to a thorough review of arithmetic. No bookkeeping instruction would be given during this period.

Do you think that the plan followed by the teacher is a justifiable solution to the arithmetic problem? How would you have handled the same situation?

2. Jane Carney was a beginning bookkeeping teacher. To avoid discipline problems, the first day of class she established a set of rules which were to govern the conduct of the class. She advised the students that any violation of the rules would result in the violator's receiving extra assignments. A few days later a student violated one of the rules. To make an example of him, even though the violation was relatively minor, Miss Carney assigned him a long series of extra assignments. When the student did not do the assignments, Miss Carney requested that he stay after school and work them under her direction. The student reported that he was employed after school hours and therefore could not stay. Miss Carney then advised the student that he had until the end of the term to submit the extra assignment, and if the work was not completed, he would fail the course. The student did not turn in the penalty assignments but did all other assigned work, made superior scores on tests, and caused Miss Carney no further discipline problem. At grading time, the teacher was faced with the problem of making good on her ruling or of passing the student and running the risk of losing face and possible disciplinary control of the class. The entire incident had been so publicized that students were fully aware of the situation, as the ruling had been made in the presence of all class members. Miss Carney gave the student a passing grade but lower than his record otherwise justified.

Did Miss Carney make the right decision? What would you suggest as an alternative solution?

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Teaching Method

IF THERE HAS BEEN no learning, there has been no teaching " Although some teachers may not subscribe to this statement, it is generally accepted as a principle Therefore, before considering and evaluating methods of instruction those learning principles which predetermine to a major degree the methods used in teaching should be reviewed

Observing listening asking questions, handling materials, and experimenting are all factors in learning All these activities are present in a well planned program of bookkeeping teaching

RULES OF LEARNING

1 *Learning is doing* Most students learn more readily through experience than they do from reading the printed page Dewey said We learn to do by doing Learning is the continuous process of finding out things In bookkeeping learning does not mean memorizing without purpose and understanding, the facts written in the textbook

Another way of stating this principle is to say that learning is a self active process One learns through the activities in which he engages—from what he does It is while engaging in these activities that the factors of learning operate Bookkeeping is abundant in opportunities for students to learn by doing—to learn from purposeful activities The presentation of every new bookkeeping principle

is followed immediately by laboratory practice on problems applying that principle. These problems should be meaningful, short and similar to the illustrations previously presented.

2 *Intentional learning is essentially goal seeking.* Learning results in changes in behavior—attitudes, knowledge, skills, and overt conduct. As a result of all activity, some learning takes place. Some is incidental learning—learning that was not particularly planned for. Teaching, however, is concerned with planned outcomes.

Teachers usually know what they want to accomplish. But do the students understand clearly what our objectives are? And understanding them, do they accept these objectives as being worthy of achievement? When they accept they will learn because they are seeking to reach goals which they understand and want to attain.

To bring students to the point where they want to attain the desired objectives is the work of the teacher. He should introduce each new unit topic in such a way that the students see the need for studying it.

3 *Students must be ready to learn.* Learning is most effective when students are *ready to learn*. It is assumed that students enrolled in bookkeeping are mentally capable of learning. They are ready to learn something, but are they ready to learn bookkeeping? And more to the point, are they ready to learn the specific bookkeeping principle that is up for consideration on a given day?

The teacher should not assume that they are! Students may have too limited a general business background to understand the bookkeeping topic. For example, they may have little or no understanding of such terms as depreciation, insurance, and bad debts. The teacher has the responsibility to "prepare the soil" for teaching these terms and their meanings. Most teachers find that time is well spent in helping students to understand why things depreciate and how depreciation is calculated as preparation for presenting the bookkeeping principles and entries involved. An understanding of the principle of credit—why merchants who grant credit do not collect all their accounts—helps students to understand the bookkeeping entries for bad debts adjustments.

Regardless of the teacher's choice of a teaching method, he should plan and make provisions for developing student readiness.

4 *Students learn best when interested* This is a fourth learning principle teachers must constantly keep in mind. Student interest cannot be taken for granted. It is the teacher's responsibility to develop this interest. The teacher may, of course, do this in many ways. Perhaps one of the most effective and most important is through the introduction of the unit topic. The teacher should be careful to plan an opening presentation that will catch the student's attention and make him want to study the topic. This is developed more fully in the section headed *Launching the Unit* in Chapter 4, *Lesson Planning*.

5 *Visual aids make learning effective* Learning is most effective when it is presented vividly. Enthusiasm begets enthusiasm. If the teacher does not like the subject, he cannot expect the students to like it.

The statement is frequently made that a picture is worth a thousand words. This is especially true when one is clarifying a principle, and bookkeeping is replete with these situations. Most of the principles in bookkeeping can be presented visually. One does not have to be an actor to use demonstration and dramatization effectively. These are always appealing to students. Several suggested visual aids are included in this book to give the teacher help and suggestions for employing this technique and thus to increase the effectiveness of his teaching. Additional suggestions may be found in the articles appearing in the business education periodicals.

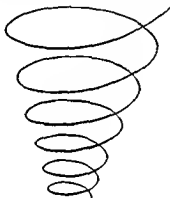
Regardless of the instructional methods used, the bookkeeping teacher should be alert constantly to provide those factors which make learning effective. Bookkeeping instruction is most effective when students engage in purposeful experiences, when objectives are clear and accepted, when student readiness is developed, when motivation is provided, and when teaching demonstrations are presented dramatically and visually.

USE OF SPIRAL DEVELOPMENT

One other teaching learning principle should be mentioned here, namely, the spiral development in bookkeeping teaching. The sequence in which the subject matter of bookkeeping is presented is a spiral sequence. This means that the simple aspects of bookkeeping are presented first and an effort is made to relate them to

the personal experiences of the students. The first cycle presented is usually for a service type business and does not include adjustments.

As the course progresses, the cycle is expanded to get broader coverage as various types of adjustments are introduced. The material also increases in difficulty as students progress through the textbook. We might say that the spiral is continually outward and upward. Students are carried through a complete bookkeeping cycle



Spiral Development in Bookkeeping

several times, each time building upon what they already know but learning new subject matter, new procedures, and additional skills along the way.

CLASS ORGANIZATION

There are several different methods of organizing a bookkeeping class but all of them may be classified under one of two basic plans. Under one plan all members of the class proceed at the same rate, under the other each member is allowed to proceed at a rate commensurate with his interest, ability, and background.

KEEPING CLASS MEMBERS TOGETHER

Most bookkeeping teachers follow an organizational plan whereby all members of the class are kept together, that is, the teacher gives a common assignment to all class members and the class proceeds from one unit or chapter to the next. Within this basic plan a number of widely different methods may be used.

Assignment-Class Discussion Method Under this method, the teacher generally introduces a new topic by assigning a unit or chapter to be read and studied from the text. Problem material may be assigned to be done upon completion of the reading. The succeeding class periods are devoted to answering questions the students may raise regarding the topic, testing the student's understanding of the assigned reading, checking problem work, and completing additional problems. Several class periods may be spent on one unit, the emphasis however, always being on answering questions and completing problems. Much class time may be spent in checking problems by having students place their work on the chalkboard.

As applied to the teaching of bookkeeping, the assignment-class discussion method leaves much to be desired.

1 It fails to create and hold the interest of most bookkeeping students.

2 It assumes that students can read and study the textbook. Research does not justify this assumption. 'Nearly half of the students reported that they quit before finishing reading textbook assignments because they did not understand what they were reading. Only 40 per cent of the students possessed enough reading ability to read and comprehend satisfactorily the subject matter in bookkeeping.'

3 It promotes memorization, not understanding. Students tend to memorize the entries necessary to complete the problems and to answer the text questions, but many fail to understand the basic principles of bookkeeping.

4 It encourages copying. Finding that they are unable to understand the textbook and, consequently, that they cannot complete their assigned problems, students may resort to copying to avoid failing the course.

5 It results in a high dropout and failure rate. Bookkeeping has one of the highest dropout and failure rates of any secondary-school subject. Many students enter the course with enthusiasm and anticipation. After struggling for a time with text material that is beyond their reading level, with a vocabulary load that seems

¹ Wayne House "Are You Solving the Reading Problem in Bookkeeping?" *Business Education World*, vol. 33 pp. 291-292 February, 1953.

formidable and with a teaching plan which places the burden of learning upon the student with a minimum of teacher help, many students lose interest, become discouraged, and drop out or accept failure in the course

Teachers who use the assignment-class discussion method with any degree of success generally follow these rules

- 1 Spend some time motivating the work before assigning a unit to be studied from the textbook
- 2 Use time early in the course to show students how to read and study the bookkeeping textbook
- 3 Explain the proper uses of learning guides that are in the work books as an aid in reading and studying the text
- 4 Prepare a vocabulary list on each unit or chapter and devote time to helping the students understand the new words and terms before turning to the textbook reading
- 5 Make sure that all students participate in the class discussion—that a few students do not dominate it

Teacher-Explanation Demonstration Method Under the teacher-explanation demonstration method all new subject matter is presented and explained by the teacher before it is studied from the textbook by the class members. Following the explanation of a principle (or along with it) one or more sample problems may be worked on the chalkboard, showing the application of the principles to problem situations. The students are not assigned textbook reading or problems until the teacher is certain that the students have the necessary background to do the work with success and satisfaction.

This instructional plan has several advantages

- 1 It gives the students confidence. They turn to their textbook reading and problem work with a feeling of assurance.
- 2 It uses the textbook as a teaching aid, not as the major instructional medium. The textbook becomes a reference source and supplements the class presentation.
- 3 It centers upon the teacher the responsibility for teaching.
- 4 It permits the use of sound teaching principles. Bookkeeping words and terms may be related to student experiences, new meaningful experiences provided, concepts dramatized and principles visualized. The course can be kept largely on the *experience* level as opposed to the verbalized level.

5 It places a premium on understanding as opposed to memorization. Copying is discouraged because students have confidence in the ability to do the work on their own.

The major disadvantage of any plan that tends to keep all members of a class together in progressing from one unit to the next is that it may not provide adequately for individual differences. The speed of progress through the course must be geared to some student level. If the rate is geared to the more able students, it is too rapid for the slow students, who fall behind and become discouraged. If it is geared to the slower students, the course may lose its challenge for the more able students, who become bored and waste much time. A time schedule that is reasonable for the slower students yet provides sufficient challenge to maintain the interest and profitable utilization of the time of the more able students is difficult to establish.

To keep the fast students occupied, some teachers assign additional problems generally selected from the supplementary problems included in most textbooks. These supplementary problems are designed to provide extra drill on the topic of the unit or chapter. Normally, however, since the faster students do not need the extra drill, these additional problems become primarily busy work for them. A more effective means of taking care of the individual differences is to use differentiated assignments, to assign classroom responsibilities and extra projects, and, if possible, to supplement classroom work with actual work experience.

Use differentiated assignments. The problem material in some bookkeeping textbooks has been planned to provide for individual differences. The problems are graded in difficulty. The first problem at the end of each unit is within the ability range of all students. Each additional problem introduces new elements, becomes more difficult, and requires additional understanding. The last problem is designed primarily to challenge the more capable students in the class. It is not intended that all students complete all problems. The slow students are held accountable for only the easier problems. The faster students are expected to complete all problems.

Assign to faster students responsibilities related to organization and operation of the class. Such responsibilities as helping the

slower students, auditing (checking) problems, preparing classroom demonstrations, planning test questions, and preparing bulletin board and other display materials may be assigned to the faster students. These responsibilities, if properly controlled to avoid student exploitation, can have real educational values for the more able students and can also be of great assistance to the slower students as well as to the teacher.

Organize extra projects These projects would be related to the bookkeeping course and would be planned and developed by committees composed of the faster students. Among the projects that might be considered are a community survey to determine the employment opportunities, a survey of bookkeeping graduates to learn their bookkeeping responsibilities and duties, an analysis of the duties performed by bookkeepers, a study of the accounting systems used by various types of businesses in the community, preparation of reports indicating the various methods of estimating bad debt losses, of determining depreciation, and of calculating merchandise inventory, and the advantages and disadvantages of each method. Such projects would greatly enrich the bookkeeping course and provide valuable activities for those students who complete their work long before the slower members of the class.

Promote work experience opportunities The work experience could be had both out of school and in school. If possible, some of the more able students might be placed in jobs where their knowledge of bookkeeping would be used for a portion of each school day. If it is not practical to place such students in business, arrangements might be made for them to keep the cafeteria records or records of clubs and school organizations or to assist with the records in the administrative office.

INDIVIDUAL AND GROUP STUDY PLANS

To encourage each student to progress at a rate comparable to his ability, the members of the class are allowed to work either individually or in small groups. The fast students are not held back by the slower learners. Each individual or group proceeds at his own speed through the textbook, reading the unit discussions and working the problems at the end of each unit.

Usually some form of student guide sheet is prepared. The

guide sheet may include objectives, desirable outcomes, problems to be completed, an outline of the major points covered by the unit, a list of the difficulties to watch for in completing the problem material and study suggestions.

Individual Study Method Under this method each student proceeds at his own rate. He follows the guide sheet supplied by the teacher, reads the textbook, and works the assignments. The teacher moves from desk to desk, helping students on an individual basis. When several students require assistance at the same time, the teacher may call upon some of the better students to assist them. This procedure is similar to correspondence study except, of course, that the student has a teacher to consult when help is needed. Many private business schools use this method with satisfactory results for students who are studying beyond the first introductory course.

Group Unit Method The group unit method of teaching bookkeeping is an attempt to improve instruction in bookkeeping by seating students of comparable ability in groups and allowing them to work together. The group begins a new unit of work when the old one has been completed and when a test covering the unit has been taken and passed. Thus, there will be several groups in the one class, each group probably working on a different unit. The method is consistent with the following educational principles:

1. Learning is an individual matter, but it takes place most efficiently and effectively in a social setting.
2. Freedom is important in the teaching learning process.
3. Recognition of progress is essential to continued behavior, which results in learning.

Some teachers prefer to have students work as a class group through the first unit of the course. The class is then organized into ability groups and students are assigned to groups according to their success on the first unit. Other teachers believe that they obtain better results by postponing the grouping until the bookkeeping cycle has been covered. Still others begin the group plan at the beginning of the second grading period.

Under the group method, the classroom must be equipped with the type of furniture that will permit students to sit in groups, such as tables large enough to serve four to six students. This arrangement creates a natural situation with students working co-operatively.

and all members of a group doing the same work at the same time. The teacher is free to move from group to group and to give help as it is needed.

The material used in the testing of the students at the end of each unit must remain in the hands of the teacher. Upon completion of a unit all members of one group take the test at the same time but are not permitted to work together. When the members of the group have completed the material assigned and have made a satisfactory grade on the test, they are ready to start a new unit. To eliminate the relaying of information by students from one group to another, since all groups will not be taking tests at the same time, the teacher must prepare more than one comparable test covering each unit.

Disadvantages of Both Plans Although the individual and group study plans do provide for individual differences through permitting students to progress at their own speed, neither plan is equally effective for all students. The above average student will be able to read and follow directions from the guide sheet, study the text, and complete problem assignments with a minimum of teacher direction. The slower student, however, is not able to make satisfactory progress under this plan unless he receives a great deal of individual assistance.

Shortly after the start of the course, the students are working on different topics. Thus a well organized class presentation including illustrations, demonstrations, and other visual aids in the explanation of a new bookkeeping principle or procedure is not possible. For example, an explanation of adjusting entries cannot be made to the class as a whole, as each individual or group in the class will not reach the unit on adjusting entries at the same time. This creates a very heavy burden on the teacher, as each principle and procedure must be explained and repeated many times.

SELECTING A PLAN

The advantages and disadvantages of each instructional method or plan have now been discussed. A method appropriate for one group of students may not be effective for another. A class plan that will work at the end of the elementary course may not necessarily be appropriate for the beginning of the course. Some units

adapt themselves more readily to one type of presentation than to another type. An instruction pattern effective for advanced bookkeeping may not work well in the elementary course. Thus, a teacher should not use any one method to the exclusion of the others. Variety adds interest to classroom procedure. The wise teacher will be flexible in adapting his methods to the background and ability of the students.

PROBLEMS QUESTIONS AND PROJECTS

- 1 Why does the assignment-class discussion method tend to promote memorization?
- 2 Explain how the learning guides in workbooks may be used to assist students in reading and studying the textbook.
- 3 How does the teacher explanation demonstration method build student confidence?
- 4 To keep students from copying in bookkeeping some teachers change one or more figures in each problem and in the practice set so that all students will not have identical figures. Do you approve this plan? How would you prevent copying?
- 5 Prepare a table or chart comparing the relative merits of the four basic teaching methods discussed in this chapter.
- 6 When students are to work together in small groups (three to five students) what is the best plan for determining how to group them? Give reasons for your suggestion.
- 7 Suggest several ways in which bookkeeping students might work together in groups.
- 8 Why is the individual study method more appropriate for second year or advanced bookkeeping than for the elementary course?
- 9 Should a teacher vary his teaching methods during the year? Explain your answer.
- 10 The criticism is made that today's schools promote mediocrity. What does this mean to you? How can it be avoided in the teaching of bookkeeping?
- 11 Why is the group method of teaching bookkeeping more effective for the more capable students than for the slower students?

CASE PROBLEMS

- 1 Up to the month of February the bookkeeping class had worked as a group having daily assignments and daily class discussion. In February the class started on a practice set. The teacher advised the class

that the set would be due in six weeks, however, students might work as rapidly as they wished and thus progress at their own speed. As a reward for completing the set before the established deadline, the students were advised that when their set had been completed and approved, they might spend the rest of the bookkeeping class time in working on assignments for other classes.

What is your evaluation of this plan?

2 Enrollment in elementary bookkeeping in the Central High School necessitated the scheduling of six classes. One teacher recommended that an effort be made to group students in the classes according to their ability. The head of the business department opposed the plan and presented the following arguments:

- a Homogeneous grouping of students is undemocratic. It constitutes a reflection on the slow students and gives the fast learners a feeling of superiority.
- b Aptitude for bookkeeping cannot be measured. No prognostic test or factors have been established sufficiently valid to justify their use. Whatever factors might be used to divide the students would not be much better than a guess.
- c Some teachers would have only the slow learners (if they could be identified), and this is not fair.
- d Even if the classes were divided, the school has a uniform time schedule and uniform tests. All classes would still have to proceed at the established rate in keeping with the time and test schedules.

What is your reaction to the recommendation and to the arguments of the department head?

SELECTED REFERENCES

- Adams, Myrtle O., and others. "Principles of Teaching Bookkeeping." *Journal of Business Education* vol 26 pp 251-252, February, 1951.
- Aston, Whynell. "A Student Centered Bookkeeping Activity," *The Balance Sheet*, vol 38, pp 170-173, December, 1956.
- Bangs, F. Kendrick. "The Case Method in Bookkeeping and Accounting," *Business Education Forum* vol 14, pp 8, 9, December, 1959.
- Dale, Richard and Anne. "Applying the Committee Technique to Bookkeeping," *Journal of Business Education* vol 28, pp 102-104, December, 1952.
- Forkner, Hamden L. "Primary Records and the Bookkeeper," *Business Education Forum* vol 10, pp 9-10, December, 1955.

PROBLEMS QUESTIONS, AND PROJECTS

- ### CASE PROBLEMS

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keeping. For that reason they will not be described here. There are, however, certain common characteristics which identify good lesson planning whether the lesson topic is development of opening entries, preparation of a trial balance, or completion of a tax report.

1 *Objectives of the lesson are definite.* A well developed plan includes provisions for insuring that all students are fully aware of the objectives of the lesson. If objectives are to be realized, students must know and accept them. Some teachers write the objectives of the lesson on the board at the beginning of the period. With the aims of the lesson constantly before the students, there is greater probability of a direct flow of work toward the goal.

2 *Emphasis is placed on understanding, not on memorization.* Many facts in bookkeeping can be memorized profitably. However, memorized facts are of little value to students unless they understand the applications. Effective teaching in bookkeeping results in the ability to understand and use what is learned.

Kahn emphasizes the importance of the *why* in bookkeeping in his statement:

instruction must emphasize the *why* as well as the *how*. The student who merely learns *how* to record transactions might be able to apply his debit and credit training with sufficient proficiency to earn good marks in school but will have difficulty if he is able at all to make the transition from the bookkeeping records used in the classroom to those found in business. Consideration of the *why* of every activity will develop a true understanding of the bookkeeping equation and the principles of debit and credit; the purposes of special columns and special journals; the need for proofs and controls; the relationship of inventory, purchases, sales, credit and collection and production procedures; and will enable the student to apply his knowledge intelligently in any situation.

3 *Proper balance is provided between presentation and practice.* In planning, provisions should be made for a proper balance in time and emphasis between subject matter, presentation and practice. Boynton emphasizes the importance of this balance as follows:

^a Gilbert Kahn, "The Teaching of Bookkeeping," *American Business Education*, vol. 12, p. 246, May 1956.

There must be a proper balance among *theory drill and practice*. Theory should be quickly converted into a practical understanding of principles. Drill is of value, but it should not be extended to the point where it is no longer a meaningful experience. The teacher should make every effort to distribute practice in such a way that overemphasis on any one phase is avoided and that a balanced picture of bookkeeping is maintained.⁴

4 *Realistic materials and procedures are used* One basic principle of learning is that learning is most effective when the subject matter is presented as nearly as possible in the setting in which it will eventually be used. Applied to lesson planning for bookkeeping, this means that materials used, teacher presentation, and student practice must be as realistic as conditions permit.

5 *Provisions are made for individual differences* The wide range of individual differences that exist in a bookkeeping class, as pointed out in Chapter 2, makes it imperative that effective planning include provisions for meeting these differences.

6 *Student participation is planned* Action, not only by the teacher but also by the students, should be planned. If the teacher does all the talking, explaining, and demonstrating, and if the students are largely passive—giving perfunctory answers to questions—very little learning is taking place. To learn, students must be actively engaged in solving problems, raising questions, criticizing suggestions offered, and evaluating practices.

7 *Student time is conserved* Five minutes of lost time each day accumulated over a year adds to several weeks of instructional time. Time is lost when class time is used to place on the chalkboard needed materials and forms which could have been prepared before class, when transactions and problems that could have been duplicated are dictated to students, when time consuming methods are used in class to check problems and tests, when assignments and instructions are customarily repeated because some students were not attentive, and when students do not have proper tools, materials, and supplies.

8 *Procedural functions of the classroom are routinized* Such daily routine tasks as checking attendance, distributing and collect

⁴ Louis D. Boynton, *Methods of Teaching Bookkeeping*, South Western Publishing Company, Cincinnati, 1955, p. 45.

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CHAPTER 1

Lesson Planning

A BUILDER WOULD NOT contract to build a house without adequate blueprints of the structure to be produced. A highway engineer would not attempt to construct a bridge unless he knew exactly what was to be done at each stage of construction. A conscientious teacher would not face a class of boys and girls without having prepared his work for the day.

Successful teachers prepare plans of action before starting the day's work. Many teachers prepare only mental lesson plans while others write their plans in full. The inexperienced teacher will do well to develop a complete lesson plan for each unit of subject matter to be taught. Proper planning assures that those factors which make for success are included.

Four basic questions are involved in lesson planning

- | | | | |
|---|------------------------|---|----------------------------------|
| 1 | What should be done? | 3 | What materials should be used? |
| 2 | How should it be done? | 4 | How should results be evaluated? |

These questions may be referred to as the *four T's of teaching*

Target
Techniques

Tools
Testing

Other terms commonly used are objectives, methods, materials, and evaluation. The problem of lesson planning becomes one of thinking through the steps to be followed in the development of a lesson in terms of these four essential elements of good planning. One form of outline that may be followed for a lesson plan is given below.

LESSON PLAN OUTLINE FOR UNIT OF SUBJECT MATTER

(Four *T's* of Teaching)

Targets—Objectives

Goals to be accomplished

Techniques—Methods

- a* Suggestions for launching the unit
- b* Teaching procedures to be followed

Tools—Materials

- a* Selection of textbook (if needed)
- b* Visual materials needed—chalkboard illustrations, charts, posters, films, and other aids
- c* Supplementary materials needed—workbooks, duplicated problems, practice sets, and other supporting materials

Testing—Evaluation

- a* How students are to evaluate their own work
- b* How you (teacher) are to evaluate students' work
- c* How you are to evaluate your own work

TARGETS—OBJECTIVES

Objectives serve as directional guides and are therefore essential to teaching. They not only determine what is to be done but also limit teaching activities by ruling out discussion that in no way aids in reaching those objectives. The choice of objectives greatly influences the selection of teaching techniques to be employed, teaching materials to be utilized, and evaluation items to be used.

We hit more targets when we aim for them, and we can aim more accurately when targets are specific and are in full view. Broad general objectives, such as "to develop good personality traits,"

"to improve penmanship," "to increase arithmetical skill," "to show the effect of transactions on accounts" and "to give an appreciation of the value of records," are objectives which may apply to every lesson in bookkeeping. Certainly every bookkeeping class period should contribute to the attainment of these objectives. However, they are not very helpful as specific targets for any given unit or class. To be useful, objectives must be specific. "to demonstrate the difference between legible and illegible writing of figures," "to improve skill in adding two- and three digit numbers horizontally," "to record merchandise withdrawn by the proprietor," "to teach the purpose and use of the eight column work sheet," "to explain how the balance sheet is prepared from the work sheet," and "to show how to balance and rule accounts."

The Joint Committee of UBEA, NABTTI, and DPE emphasizes the importance of students' understanding the objectives in the following statement:

*Learners always have goals although these goals may not coincide with the goals teachers have in mind. The goals of learners are always significant to them or else they would not set them up. The teacher's task is to make worthwhile and appropriate goals significant to the learner. This would include a clear understanding on part of learners of the nature of goals and a clear picture of the progress being made.*¹

Objectives must be realistic in the sense that they are attainable within the time provided. A major pitfall of inexperienced teachers is an attempt to cover too much in any one lesson. This practice results in too rapid coverage, confusion by the students, and time wasting by the teacher. There are many days in a school term. Only a small amount of work need be covered each day. If definite and realizable objectives are selected and the teaching procedure is carefully planned and executed, the day to day program will progress smoothly and profitably.

TECHNIQUES—TEACHING METHODS

Too frequently teachers do not give sufficient attention to introducing a new unit of subject matter, they assume that students

¹ Joint Committee of UBEA, NABTTI, DPE. What We Know About Motivation. *Business Education Forum*, vol. 10, p. 19, April 1956.

automatically want to study the next unit because it is new. Each new unit should be presented to students in a manner that creates interest and stimulates a desire to learn.

The problem is not a simple one. Because of the complex nature of human motivation, no single motivating device will influence all students in the same way. In lesson planning the teacher must usually think in terms of more than one motivating device.

Launching the Unit Three principles should be observed in introducing any new unit of subject matter:

1. *Introduce new material in terms of previous knowledge and experiences of students.* This necessitates building upon knowledge gained earlier in the course. Bookkeeping is unusually rich in this regard because it continues to use those principles previously studied. The teacher's role is one of showing how the principle or procedure to be introduced is related to that which the student already knows. In addition to building upon the student's knowledge of bookkeeping, the teacher may capitalize on their experiences outside the classroom. Most students have had numerous experiences in the business world. For example, paper carriers do not always collect from all their customers. Some move to new locations and "forget the paper boy." This may be used in launching the unit topic of bad debts. The teacher should always be alert to relate these experiences to the bookkeeping principles and procedures being taught.

2. *Show a need for the new information.* Any unit for which a need cannot be shown should not be included in a course. Units, however, vary. It is easier to identify student needs with certain topics than with others. For example, the need for knowing about payroll calculations and tax deductions is much easier to identify than the need for understanding adjusting entries. More time and planning, therefore, may be required to motivate certain units than others.

The following list contains some of the devices that experienced teachers use to develop interest in a new topic.

CASE STUDIES Student interest is always high when the teacher is describing an actual business situation or relating a true experience of someone he knows or has heard about.

CHARTS AND OTHER VISUAL AIDS A thought provoking chart

or bulletin board may stimulate interest. Films and filmstrips may at times also be used for this purpose.

GUEST SPEAKERS A talk by a credit manager may spark enthusiasm for a discussion of procedures in handling bad debt losses. An explanation of purchasing procedures by a purchasing agent may develop interest in the unit on handling purchases.

FIELD TRIPS By observing actual business procedures, students may see the need for an understanding of a specific topic.

COMMITTEE INVESTIGATIONS AND REPORTS Where an entire class cannot be taken on a field trip, a committee of students may serve as a substitute.

CLASSROOM PROBLEMS Problems encountered by students in one topic may kindle interest for other topics. For example, inability to obtain a trial balance may be all that is necessary to launch a lesson or unit on steps to be followed in discovering errors on a trial balance.

DEMONSTRATIONS OF EASIER OR IMPROVED METHODS Easier and shorter ways of doing things are always appealing. Special journals and subsidiary ledgers are but a few of the many topics that may be motivated through this appeal.

3 *Maintain a proper balance between motivation and presentation.* Satlow explains this principle as follows:

Some teachers fail to motivate the work sufficiently with the result that pupils see no purpose in participating in the lesson. On the other hand, there are teachers who spend so much time motivating the work that very little time is left for the actual learning process to take place through the establishment of the proper habits and skills.

Neither extreme is justified. We do need motivation to show pupils the need for the learning of the new knowledge or skill. Every part of our work is to be motivated, not only the presentation. But, our motivation is not to be extended for too long a period of time, for we must remember that motivation sets the stage for learning, but that, in and of itself, it does not result in learning. Since in a skill subject learning results from practice and utilization, we should allow for the optimum amount of practice and utilization.²

Teaching Procedures Chapters 7-19 discuss the teaching procedures that may be used in presenting the different units in book

² 1 David Satlow. *Helpful Hints in Teaching Bookkeeping and Accounting Monograph 96*. South Western Publishing Company Cincinnati 1956 p. 28.

keeping. For that reason they will not be described here. There are, however, certain common characteristics which identify good lesson planning whether the lesson topic is development of opening entries, preparation of a trial balance or completion of a tax report.

1 *Objectives of the lesson are definite.* A well developed plan includes provisions for insuring that all students are fully aware of the objectives of the lesson. If objectives are to be realized, students must know and accept them. Some teachers write the objectives of the lesson on the board at the beginning of the period. With the aims of the lesson constantly before the students, there is greater probability of a direct flow of work toward the goal.

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8 *Procedural functions of the classroom are routinized* Such daily routine tasks as checking attendance, distributing and collect

⁴ Louis D. Boynton *Methods of Teaching Bookkeeping* South Western Publishing Company Cincinnati 1955 p. 45

ing materials placing work on the chalkboard, classroom ventilation, and other classroom chores are routinized so that they take up a minimum of teacher and student time

9 *Monotony is avoided* While routinized procedures should be established for the handling of many aspects of the daily lesson, the general teaching procedure and class pattern should vary from day to day. If each day is but a repetition of the preceding day, sooner or later boredom is certain to set in. Variety in teaching procedure should be planned.

10 *Difficulties are anticipated* In planning for a lesson, the teacher should anticipate difficulties which may interfere with the smooth development of the lesson during the class period as well as difficulties that the students may encounter in completing the assigned homework. The difficulties may include troublesome arithmetic calculations, vocabulary problems, unfamiliar wording of instructions and transactions, errors in the textbook, and misleading figures. If these difficulties are anticipated in the teacher planning, both class time and student study time may be conserved.

Homework A lesson plan must include activities to follow the class presentation of the topic or unit. Learning of bookkeeping requires more than an understanding of the theory, it also requires practice in applying the theory. Part of this practice can and should be completed as part of the class period when the teacher will have an opportunity to supervise the work of the students. The remaining practice must be done outside the class period as homework. Kahn and Freeman list the following reasons why homework in bookkeeping is necessary:

1 *To save class time* Class time can be reserved for teaching only when practice applications are undertaken without loss of class time.

2 *To apply new learning* Learning in bookkeeping is an accrual of principles and procedures. Bookkeeping is best learned when each item is diagnosed and understood through class activities, then intensively practiced and applied.

3 *To help slow learners* Today's teacher must pace his instruction to the tempo of his class average. A number of learners who do not grasp principles and procedures until they have themselves, at their own pace, tried them out are to some extent neglected in class activities. Without homework, many a slow learner would fall by the wayside early in the course.

4 *To challenge fast learners* To many a superior boy or girl the opportunity of doing homework is the one aspect of the course that lacks boredom

5 *To help absentees* If all learning is restricted to the classroom the absentee is hopelessly lost unless effective homework assignments can be given him close on the heels of the teacher's assistance in explaining the principles and procedures he has missed

6 *To provide self inventory* Only the learner who has opportunity to work alone on his own resources knows what he knows and does not know and therefore knows when and on what to ask for help

7 *To provide class inventory* Careful handling of assignments gives the teacher an inventory of what students do and do not understand

Among the thirty criteria for an assignment that Satlow lists are the following

It is based upon coverage of a topic rather than on pages

Instructions are definite—students know exactly what is expected of them

It consists of a judicious blending of reading matter and problem solving

It includes questions to guide students in their study or refers pupils to a model solution as a guide in their work

It is characterized by a gradation of difficulties

It offers a challenge by means of several thought provoking questions

It makes provision for individual differences within the class

It possesses enough variety to maintain student interest

It is of proper length and difficulty

It lends itself to ease in checking^a

TOOLS—MATERIALS

Under this section of the lesson plan the teacher lists those tools and materials which he and the students will need in the presentation and development of the lesson. Even the most ex-

^a Gilbert Kahn and M. Herbert Freeman *How to Assign Bookkeeping Homework* *Business Teacher* vol 31 pp 15-16 February 1954

^a I David Satlow *Assigning Homework in Bookkeeping* *The Balance Sheet* vol 38 p 153 December 1956

perienced teachers take time to itemize the materials they will need. Nothing detracts more from a class presentation than the teacher's interrupting the class to obtain or look for materials which should have been ready for immediate use. Although the teacher's ability to improvise grows with experience, the best illustrations, the best demonstrations, and the best over all presentations always result from careful preclass planning.

Textbook The most important teaching aid in bookkeeping is the textbook. No other teaching aid exerts as great an influence on what is taught or how it is taught. Because of the importance of the textbook, serious consideration must be given to its selection and use. If the textbook is to be used fully, the lesson plan needs to consider what illustrations from the textbook are to be studied, what materials are to be read, and what problems are to be used.

The student's attitude toward his bookkeeping textbook is important. To some students, the textbook is associated with confusion, frustration, and failure. To others, it represents a source of information and a valuable reference tool.

The kind of attitude that students have toward their textbook is shaped to a certain extent by how the teacher presents and uses it. When the textbook is first introduced to the students, the teacher should present it as something that the students should be proud of and will find helpful. Student attention is directed to the preface and how the text was developed, the introductory talk to students, the table of contents, the glossary, and the index. A few fast drills on how to locate topics by means of the index are appropriate. The teacher should help the student read and understand the textbook, and should provide a vocabulary background so that students can read it with understanding, as discussed in Chapter 2.

Visual Materials to Be Used Some form of visual aid may be effectively used with almost every bookkeeping lesson. The use of such aid, however, requires considerable prelesson planning. It will not suffice merely to list in the lesson plan the suggestion to "show a film" or "illustrate a balance sheet." The plan must be more specific. It should list the specific film to be shown, provide the specific balance sheet to be illustrated, and identify the specific chart to be used. Some visual aids require long preparation. Others require

[†] The criteria for textbook selection are discussed in Chapter 22.

scheduling for days and weeks before they are to be used. Reservations must be made for films and projection equipment. Bulletin boards must be planned and worked on for several days before the date of intended use.

One must keep in mind *the goals of the lesson* and the material must be chosen to aid in the accomplishment of these goals. For example, the films 'Bookkeeping and You' and 'Accounting: The Language of Business' might be used early in the course to help attain goals pertaining to orientation or inspiration. They would be untimely, however, if the objective were that of explaining the use of adjusting entries.

When audio-visual aids are mentioned, many teachers immediately think of films and filmstrips. These constitute a small part of audio-visual materials; in the teaching of bookkeeping they play a minor role. Posters, charts, diagrams, bulletin boards, chalkboard demonstrations, models, and many other forms of visual aids are prepared and used more frequently than are films. These, along with suggestions on how they may be prepared, are discussed in Chapter 5.

Supplementary Materials In order to provide for differences in ability of class members, a good bookkeeping textbook contains problems on more than one level of difficulty. There are differences *in interests as well as in abilities*. Publishers have made available a great variety of teacher materials to supplement the textbook.

Workbooks, when properly used, are excellent teaching material. Most workbooks contain business forms and journal, ledger, and work sheet paper, organized to provide the correct amount of lines required for each problem in the text. In addition, most workbooks provide learning or study guides, the value and use of which have already been discussed.

Workbooks offer many advantages to both the teacher and the student. They save time, as accounting paper does not need to be identified and distributed in class. They help the teacher in checking papers, as the location of the work on the papers is identical. Students do not waste paper, as the workbook provides just the right form and the right number of lines. They help the student to present neater work. In addition, they may be a money saver for the student or the school. Because of the conservation of paper that the workbook provides, the actual cost of the workbook in most cases would

be less than the total cost of the paper the student would purchase if work book were not used

Practice sets of many different types are available. Some provide business papers, others do not. Some are intended for all students, others are highly specialized and are intended only for students with a particular interest, such as a farm practice set.

There is hardly a lesson in bookkeeping that cannot be supplemented in several ways. Case studies, teacher prepared problems and guide sheets, magazine and newspaper clippings that tie in with the topic being studied are used by well prepared teachers. Students learn more than the minimum essentials when teachers plan specific ways to supplement the text discussions. The resourceful teacher will build a good repertoire of stories, anecdotes and illustrations to use during class discussion.

TESTING—EVALUATION

A well prepared lesson plan indicates how the lesson is to be evaluated. This evaluation is to be done by both the students and the teacher.

Students Evaluate Their Own Work Students must be encouraged to evaluate their own work and their evaluation should correspond rather closely with that of the teacher. To obtain this harmony of evaluation the teacher must either permit the students to work with him in establishing the evaluative criteria or he must explain to the students in detail the basis for judging their work. One suggestion is that the students' assignments should be prepared on varying levels of difficulty. Each student's choice of an assignment is one indication of his degree of confidence in his ability to prepare the solution. How well he performs on the assignment chosen is another criterion.

Students may grade themselves on such abilities as willingness to work with others, courtesy, neatness, and promptness. Some teachers follow the practice of using a check sheet listing many of these qualities, and each student is asked to rate himself at the end of each grading period. A comparison of a later check list with one completed earlier should reveal progress. In many instances the students and the teacher prepare this check sheet co-operatively at the beginning of the course.

Teacher Evaluates the Students' Work Several factors must be considered in the evaluating and grading of students' work. These factors are discussed in Chapter 21.

Teacher Evaluates His Teaching If a teacher prepares good lesson plans, he is very likely to attain success in teaching. If he fails to prepare his work thoroughly, he is quite likely to wander from the immediate task and fail to accomplish the lesson objectives.

When a teacher has more than one class of bookkeeping, he may not remember exactly what has been discussed in each class. In some instances he may find that a few points were never adequately explained to one or more groups.

Where there has been little learning, there has been little teaching. The teacher needs to evaluate his teaching in order to improve his techniques, to strengthen his good qualities, and to eliminate his weaknesses.

Teachers seeking to improve their teaching skill will be anxious to use every means available. A teacher's self-appraisal check list appears in Appendix L. In some schools teachers are rated by their students by the use of check sheets. In this way a teacher discovers points of strength and weakness. One such evaluation sheet is illustrated in Appendix D.

PROBLEMS, QUESTIONS AND PROJECTS

1. What are the advantages and disadvantages of having written lesson plans for use in bookkeeping teaching?

2. What are the four major divisions in lesson planning as discussed in this chapter? What is included within each division?

3. The statement has been made that "there is no one method of teaching that is best for all students." Do you agree with this statement? Explain your answer. What are the implications of the statement for lesson planning in bookkeeping?

4. How important is the "introduction" part of a lesson plan? What is its chief purpose?

5. Choose three topics that are taught in first year bookkeeping and outline for each a way in which it can be motivated.

6. Do you agree with the statement "motivation sets the stage for learning, but in and of itself, it does not result in learning"? What are the implications of this statement for lesson planning?

7 Frequently students ask questions in class that relate to phases of bookkeeping that will not be studied until several days hence. When should the teacher depart from his day's objectives to answer such questions?

8 A basic principle is that learning is most effective when the subject matter is presented as nearly as possible in the setting in which it will eventually be used. How would you apply this principle to lesson planning in bookkeeping?

9 Choose one of the unit topics normally taught during the first-year course in bookkeeping. Prepare a lesson plan for teaching the topic you have selected.

10 Why should students participate (a) in determining course objectives, (b) in planning the course, and (c) in evaluating their work?

11 What values, if any, can be obtained by having your students evaluate your teaching?

CASE PROBLEMS

1 The established policy of the public schools of a large city is to leave the decision about the use of workbooks to the high school principals. Bookkeeping workbooks are provided in all high schools but one where the principal has ruled that no workbooks are to be used. He argues that workbooks are not necessary, are too expensive, and frequently are only partially used by teachers. They are, therefore, a waste of public funds. His standard comment is, "I'd rather have the money to increase teacher salaries than to purchase workbooks." The bookkeeping teachers of the high school asked permission to request their students to purchase workbooks if the school would not provide them. The principal would not approve the request. At a meeting, the teachers decided to draw up a report which would support their request.

Assume that you were the teacher selected to prepare the report. What major points would you include?

2. Violet Hartley has been a teacher at the local high school for many years. She is not popular with the students. They claim that her assignments are too long, her standards are not reasonable, she follows an inflexible grading system, she is a serious and exacting drill master, she is constantly comparing them to the good students she used to have, and they don't have any fun in her classes. The students that complete her course, however, rank high on all tests and have a thorough knowledge of elementary bookkeeping. Miss Hartley is aware that she is not popular with her students. Her general reaction, however, is "My

students don't appreciate me now, but just wait until they get out in the business world, they will appreciate what I did for them." She usually continues with some comment such as "Do you remember Willie Mason? I met him in town the other day and he said Miss Hartley, I sure wish I had taken your advice and worked hard when I was in school and in your classes. If I had, I would have had a far easier time on my job."

Do you think that it does not matter that her students' comments are true as long as the students learn bookkeeping? Justify your position.

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Using Visual Aids

TEACHING IS EFFECTIVE when students understand, understanding is increased if ideas and relationships are visualized. Bookkeeping is rich in opportunities for using a variety of visual aids—the chalkboard, posters, tackboards, films, and filmstrips.

Regardless of the type of visual aid being used, certain basic rules should be observed:

- 1 The purpose for which the aid is designed should be understood.
- 2 The aid should be interesting, comprehensive, concrete, clear, concise, and natural; it must be reliable and authentic.
- 3 The aid materials should be prepared in advance to prevent waste of time and effort.
- 4 After the aid has been used, an evaluation should be made to determine if the objectives have been attained.

THE CHALKBOARD

Bookkeeping teachers probably use the chalkboard for demonstrations more frequently than they use any other type of visual aid. Chalkboards are frequently covered with accounts, journals, and forms that have been used in the explanation of bookkeeping procedures. Some of these demonstrations are well planned and effectively presented. Others are extemporaneous, poorly organized, and relatively ineffective. To be effective, a demonstration must meet the following criteria:

- 1 The key points of the demonstration must stand out
- 2 Every student must be able to see and hear
- 3 The key points must be reviewed and summarized at the end of the demonstration
- 4 The demonstration must have been so planned that it can be completed within the class period

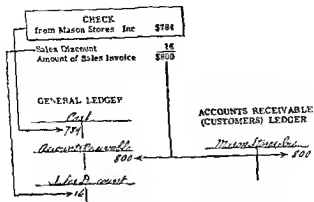
Emphasize One Key Point Organize each chalkboard illustration around one and only one key point. That point may be the parts of a balance sheet, the divisions of a profit and loss statement, how to complete a work sheet, the effect of transactions on accounts, how to journalize transactions, how to post to ledger accounts, how to balance and rule ledger accounts, or any one of a long list of book-keeping procedures and forms.

Frequently so many points are incorporated in one illustration that students do not see specifically the major point that the demonstration was designed to develop. For example, assume that an illustration is to be used to show the effect on the ledger accounts when payment is received for a sales invoice on which a cash discount has been allowed. In illustrating this transaction, some teachers (1) rule a four-column cash payments journal, explain each part, and then make the entry in detail in the journal, (2) rule the ledger accounts in detail, and (3) post to each account, carefully observing all details.

By such a demonstration, the teacher has illustrated not only one key point but three key points: (1) how to journalize the entry in a four column cash journal, (2) how to post from a four column cash journal to ledger accounts, and (3) how the entry affects the ledger accounts when posted. The result is that the demonstration takes more time than the purpose justifies, and students may not see the one point that the demonstration was designed to illustrate—the effect of the transaction on the ledger accounts.

The journalizing procedure and the posting procedure must be illustrated in due time. However, such demonstrations should come after the student understands the effect of the transaction on the accounts.

When the illustration is stripped of all but the essentials, after it is completed it may appear as follows:



Recording Receipt of Payment of Sales Invoice

To emphasize the key points of an illustration

- 1 Have all preliminary work on the board before the demonstration starts
- 2 Use colored chalk to identify the key point or figures
- 3 Use connecting lines, arrows, or circled figures to direct attention
- 4 Strip the illustration of all but the essentials

Arrange for All to See An elementary principle of good teaching is that all board work should be so arranged and presented that every student can see and hear. This principle would not justify comment were it not so frequently violated even by the most experienced teacher.

The direction of the lighting, the location and amount of chalk-board space, and the physical arrangement of the rooms vary so widely as to make specific suggestions impractical. Every teacher, however, should observe these precautions and checks:

- 1 Check all parts of the room to make certain that light glare does not obscure the view of the board from any part of the room. The light glare should be checked several times as it varies with the time of day.
- 2 Make certain that the board is washed frequently so that the contrast between the board and the chalk is at a maximum.
- 3 Use yellow chalk to improve visibility.
- 4 Make certain that all board writing is high enough so that students in rear rows can see it.

- 5 Determine the most desirable board location for the best visibility of all students
- 6 Avoid obscuring the board when writing

Review and Summarize In one instructional period several different things may be illustrated each illustration being directed toward developing one key point. For example in one instructional period the teacher may demonstrate on the board (1) how sales transactions are journalized (2) how the journalized entries are posted to the respective ledger accounts, and (3) the effect of a sales transaction on ledger accounts. While each of these points will be illustrated separately, they need to be tied together for a final review or summary. To facilitate this final review, an orderly arrangement must be worked out for placing the material on the board so that it may be retained.

Although key points should be summarized at the end of each series of illustrations, a final review at the end of the period will summarize the lesson for the students and thereby round out the instructional period. This final review of the lesson will take but a few moments if the illustrations have been well arranged and have been retained on the board.

Plan for Completion Within Period The request 'Do Not Erase' plagues many a teacher who shares classrooms with other teachers. It is a great temptation at times to retain on the board materials that have been carefully developed and that will be needed in a subsequent period. To tie up board space needed by other teachers, however, indicates a lack of consideration of others.

In planning a board demonstration, therefore, the teacher should so organize the material that he may complete the demonstration within the class period. By limiting each illustration to the development of one key point, by stripping each illustration of all but the essentials, by preparing the preliminary work before the start of the class period, and by so planning the demonstration as to avoid any unnecessary delays, the teacher will be able to demonstrate most bookkeeping procedures in one period.

In illustrating various bookkeeping procedures, the teacher should have certain preliminary materials available. For example, to illustrate how financial statements are prepared from the work

heet the work sheet must be available for use. The development of the work sheet, however, has been presented in a previous lesson and is not an element for development in the illustration for the day. To avoid delay at the beginning of the class period in placing on the board such preliminary work necessary to the demonstration, several things may be done:

1. Students may be selected and trained to put such material on the board during the first part of the period while other routine matters are being taken care of.

2. A large portable chalkboard may be used. The material may be placed on the portable chalkboard before the class begins. The board may be wheeled into position at the beginning of the period.

3. Slate cloth may be used. The material is placed on the cloth before class use. The cloth may be attached to a roller mounted above the top edge of the chalkboard.

4. Forms that will be used year after year may be permanently prepared on wall charts or on large cardboard plaques.

Other Suggestions. Since most bookkeeping illustrations require the use of bookkeeping forms, the teacher will save much time by applying the following suggestions:

Permanently rule on the chalkboard a journal form, a ledger form, and a work sheet form. This permanent ruling may be done by etching or painting lines on the board. The etching may be done with a steel-edged rule, a nail file, or any other sharp instrument. Only thin, sharp lines are needed; the chalk dust settles in the grooves and makes permanent lines. Thin lines may be painted on the board by the use of a "paint striper," which may be bought at a hardware store or paint store. Use a rubber base paint in a soft shade of yellow.

Appendix E gives suggested dimensions for the journal, the ledger, and the work sheet.

Where permanent rulings of forms on the board are not desirable, semipermanent rulings may be done by making chalk lines on a wet board. Allow the board and chalk rulings to dry before using the board.

Stencils are available for stenciling the work sheet form, two column journal, and account form on the chalkboard. The stencils are mounted on rollers above the board. When needed, the stencil

is pulled down over the board and by passing an eraser over the stencil, the imprint is sketched on the board. A form may be placed on the board in a matter of seconds (Bookkeeping chalkboard stencils may be obtained from the Corbett Blackboard Stencils, 548 Third Avenue, North Pelham, New York.)

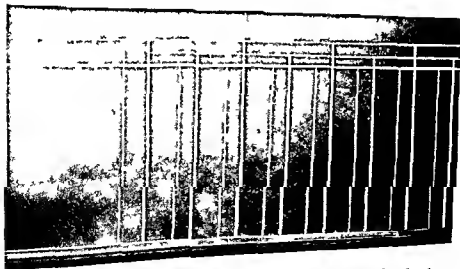
Plan for students to rule the board with the needed forms before or at the beginning of the class period. Student monitors may be selected for this purpose and taught how to make the rulings. This plan saves teacher time.

For the journals and the work sheet, prepare paper or card board ruled and printed with columnar headings. The use of these heading strips, fastened at the top of the board when needed, eliminates the need for writing in the columnar headings and serves as a guide for the vertical rulings.

The column headings of a work sheet and a permanently ruled work sheet are shown in the illustrations below.

ACCOUNT TITLE	A C T	TR. L. BALANCE		ADJUSTMENTS		P & L STATEMENT		BALANCE SHEET	
		DEB	CR	D	C	DEBIT	CREDIT	ASSETS	L & P

Work Sheet Chalkboard Headings



A work sheet form permanently ruled on the chalkboard. The form was painted on the board with a paint striper and rubber based paint. The color yellow was used to provide high visual contrast with the black surface of the chalkboard.

Use cardboard panels to cover material on the board until it is ready for presentation. For example, to save the time of filling in the account titles and amounts of a balance sheet as it is being presented in class, the balance sheet with all account titles and amounts filled in may be placed on the board before the class period. Strips of paper or cardboard panels may be cut to cover each section (assets, liabilities, proprietorship). As the class presentation progresses from one section of the balance sheet to the next, the strip covering the section may be removed.

To facilitate ruling, use a yardstick with a small grip on the back. This permits holding the yardstick in place with one hand and ruling with the other.

Several lines may be ruled at one time by the use of a line ruler which holds several pieces of chalk for horizontal rulings.

The use of a pointer will save the teacher many steps and will lessen or prevent the teacher's blocking some student's view of the chalkboard.

Instructions for preparing a yardstick for board ruling are given below.

1 Use an extra wide yardstick. A T square from which the end-piece has been removed makes an excellent stick.



2 Attach a hand grip to the stick. This permits you to hold the stick firmly in place with one hand and rule with the other. A window-sash lift makes a convenient grip. It can be fastened to a small block, which in turn may be fastened to the stick.

3 Place the hand grip on one side of the stick so that it can be held without interfering with the ruling along the other side.

BULLETIN-BOARD EXHIBITS

The bulletin board is a very helpful visual aid for the bookkeeping teacher. It is especially useful for introducing a new unit, topic, summarizing a unit of study, displaying student work, keeping

abreast with current happenings in business, and exhibiting samples of business forms and records. As a motivation device, it sustains interest and serves as a source of challenge, pride, and aesthetic appeal. The bulletin board appeals to all students, it leaps the hurdle of individual differences. It helps to set the tone of a classroom and serves as a standard for neatness. A glance at the classroom bulletin board frequently gives an index to the personality of the teacher, his professional awareness, and the class achievement.

For review purposes here are a few of the basic rules to be observed in the use of the classroom bulletin board.

1. A bulletin board exhibit should have a purpose.
2. An exhibit should relate to the topic being studied.
3. The materials used should be accurate and up to date.
4. Bulletin boards should be changed frequently.
5. Bulletin board exhibits should be prepared by both teacher and students.

BULLETIN-BOARD PREPARATION

The following suggestions may be helpful in the actual preparation of bulletin board exhibits.

Headings This requirement should be obvious, but it is sometimes neglected. A caption at the top of the exhibit will tell the observer what it is about. In many cases, also, the headline serves to give the exhibit balance and symmetry—it serves as a theme, tying the display together. All headings and subheads should be short, simple, clear, and uniform.

Legibility The purpose of an exhibit is to make the meaning clear at a brief glance. Therefore, the exhibit should make sense and should be simple enough to be understood by the average observer. The lettering used should be legible and concise. See Appendix F for a list of companies producing commercially prepared letters for use in making bulletin board displays.

Color and Balance Colored lettering or materials attract attention. Materials displayed with symmetry or balance also attract attention. Colors that blend or contrast properly are helpful. These factors also help to give an exhibit a finished look and an artistic touch.

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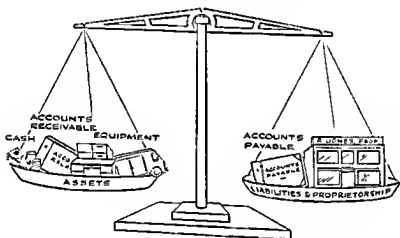
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SUGGESTIONS ABOUT BULLETIN-BOARD MECHANICS

Exhibits are intended to be seen. They must also be understood, or their purpose will not be accomplished. Here are a few suggestions pertaining to the mechanics of bulletin-board preparation that have proved valuable.

- 1 Displays should be made of material that is easily pierced with thumbtacks.
- 2 Display areas should be large enough so that materials may be shown without crowding.



Pictorial Balance Sheet

- 3 There should be border space at the sides of the exhibit as well as at the top and bottom.
- 4 Bulletin boards should be well lighted.
- 5 Bulletin boards should be placed in the flow of traffic.
- 6 Bulletin boards should be placed at the eye level.
- 7 Credit should be given to the persons who arranged the exhibit—a card in one corner will accomplish this purpose. If any unusual materials are included, the source should be indicated.
- 8 Anything worth mounting for a display is worth mounting well. Even a cartoon embellishing an announcement should be mounted on colored paper.

9. When possible, use a question form of caption. The question challenges, draws attention, encourages a second look.

10. Now and then cover your display area, even if it is a fine cork board, with colored paper, or solid tone wallpaper, or ceiling paper—anything that will give the board a fresh look.

11. Bulletin board displays should be affirmative. One should not post poor work, even as a bad example—not in view of what we know about mental hygiene.

12. Honors coming from having one's work posted should be generously accorded. Anyone can post the work of superior students, it takes alertness and ingenuity to find something worth posting that is prepared by below-average students.

13. Successive displays should be so strikingly different that the "steady trafficker" realizes a new display is posted.

14. Dismounted display materials should be saved, many of the illustrations and pieces of art work can be used another year.

15. Leaving a board completely blank is better than sticking up anything, for haphazard use destroys the market."

The Materials File The teacher should build up a file of bulletin-board materials. The types of materials collected are indicated by the following suggested list of folder titles.

Accounting systems—sets of forms used by a particular business, such as filling station, grocery store, or restaurant.

Business forms—invoices, vouchers, checks, notes, and like forms.

Cartoons—situations related to office and bookkeeping work.

Corporation reports—stockholder reports.

Financial statements—balance sheets and profit and loss statements of well-known local corporations.

Former students—pictures, news clippings, and reports on former students.

Guidance information—want ads, occupational statistics, employment opportunities, college courses, magazine articles.

News clippings—news stories related to bookkeeping and accounting.

Pictures—office machines, offices, bookkeepers at work, and other business photographs.

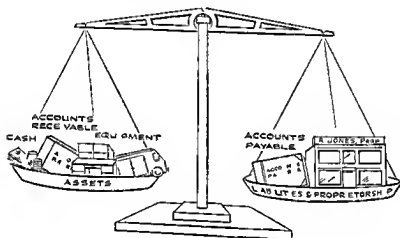
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Miscellaneous items related to bookkeeping.

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WALL CHARTS AND POSTERS

The variety of charts and posters that may be prepared for use in day by day classroom work in bookkeeping is limitless. These charts and posters may be used in several ways.

Demonstration and Class Presentation Charts may be prepared for use as part of a classroom demonstration of a bookkeeping principle or procedure. They are similar in composition and type to the illustration that would be prepared on the chalkboard. Illustrations prepared on cardboard or in some other permanent form, however, have the advantage over the chalkboard illustration in that they may be used several times in the course for review, and then filed and used year after year. Charts of business forms and papers, steps in preparing a balance sheet, forms for financial statements, adjusting entries, account forms, and the relation of the subsidiary ledger to the general ledger are but a few of the many charts which may be prepared and used in this manner.

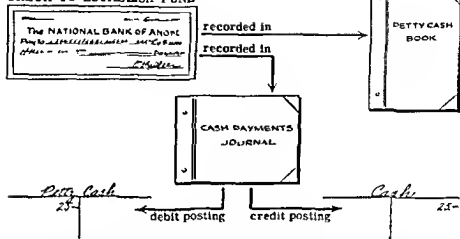
Classroom Monitors Charts and posters may be prepared and placed in the bookkeeping room as ever-present reminders or monitors. Such posters should be displayed in conspicuous places in the classroom and left for several days or a week. If they are prepared attractively, they not only teach but also add to the atmosphere of the bookkeeping room. *ALP*, *ICE*, *ACE*, and *LIP* accounts, steps in the bookkeeping cycle, the fundamental equation, and rules for recording increases and decreases in accounts are illustrations of this type of chart or poster.

Review Flash cards showing account titles can be prepared. These flash cards may be used repeatedly for rapid review. As the cards are flashed, students may be asked to identify the classification of the account, whether the account should have a debit or a credit balance, whether the account would be increased by a debit or a credit, on which financial statement the account would appear, and many other things.

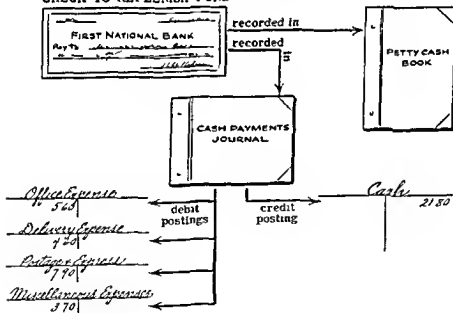
Flash cards showing common transactions can also be prepared. As they are flashed, students may be requested to indicate the accounts to be debited or credited in recording the transactions, or the journal in which the entry would be made.

See Appendix I for illustrations of posters and charts.

CHECK TO ESTABLISH FUND



CHECK TO REPLENISH FUND



Flow Chart Visualizing Petty Cash Procedure

MECHANICS OF MAKING CHARTS AND POSTERS

Commercially prepared wall charts may be purchased. However, any teacher can prepare inexpensive yet attractive charts more flexible in their use than those commercially prepared. Charts that are to be used repeatedly deserve to be well made, to be ruled and lettered as precisely as possible, and to include color to direct attention and improve appearance. Permanent charts may be made on art board or washable window shades. The shades may be mounted on window blind rollers and installed above the chalkboard for convenient use.

Charts and posters made for a temporary, immediate purpose—to perk interest at the start of a unit, to summarize a brisk learning situation, to enliven a committee's report, to illustrate a procedure or relationship—should be simple. The basic function of such charts is to crystallize class thinking and learning; their use is only for the moment. One cannot justify taking student time to make elaborate posters with painstaking lettering and art work. On the contrary, posters may be made on wrapping paper, wall paper, or ceiling paper. The letters may be cut out from newspaper headlines and pasted on the paper, or they may be hand drawn with a broad felt tipped lettering pen, with a broad tipped poster pen, or with a soft grease pencil. The illustrations, whether pictures, charts, or graphs, should not be hand drawn art of distinction. They may be casual cutouts or extremely simple "stick figures" (See Appendix G.)

The design of the poster should be planned by the students who are to prepare it. The principal value of a learning aid poster lies in deciding what to put on it—the poster itself is quite secondary, important only in that it reminds the students of the discussion and other learning activities that led up to making the poster.

STORAGE OF CHARTS AND POSTERS

The use of good charts and posters stimulates the preparation of new ones. Quite soon the teacher is faced with the problem of satisfactory storage space for them. Although most classrooms are not equipped with adequate storage facilities for posters, the problem may be solved rather easily.

One very satisfactory way to provide suitable storage is to build a compartment within a closet. Another plan is that of a flour bin built into the bookshelf area. A third method is to build a suitcase type of box with a hinged door on one side.

FILMS AND FILMSTRIPS

Only a few motion pictures have been developed for use in the bookkeeping classroom. Those suitable for showing early in the bookkeeping classes are discussed on page 113. Filmstrips are available for use in connection with specific textbooks. These filmstrips are listed in Appendix H.

A filmstrip should be shown several times in the same classroom and used for a number of different purposes if its full educational values are to be obtained. Freeman and Hanna list ten different uses for a bookkeeping filmstrip.

1 *To Preview* Using a filmstrip to launch a new unit not only previews it efficiently but also stirs keen interest in the topic.

2 *To Summarize* As a summary of instruction and a vivid one at that, the filmstrip is hard to beat. You show it (this is the second showing) immediately after your presentation of a new theory just before the class digs in on its practice problems.

3 *To Review* The filmstrip is shown a third time when the unit has been completed, the problems are finished, and the students are preparing for their unit quiz. The showing is a dynamic way to review and prepare for the quiz. How students welcome it!

4 *To Recapitulate* Every filmstrip includes many an illustration at which you exclaim, "My! but that's good!" You can come back to it time and time again. It's not lost.

5 *To Remedy Instruction* Many teachers use the filmstrip after a quiz as well as before it. Often the quiz itself reveals basic misunderstandings that can be quickly remedied by running through the filmstrip again.

6 *To Help Make Up* If a student misses school when a new unit is introduced, having him view a related filmstrip is probably the quickest way for him to catch up.

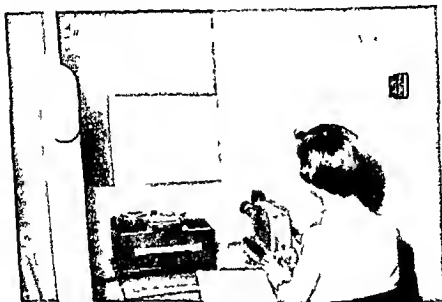
7 *To Overcome Difficulties* If students do not understand a principle or procedure (every class has some such students), letting them go through the filmstrip once more may help them overcome the problem.

8 *To Visualize* Many students understand things thoroughly only

when they see them visualized, here the professional skill of the artists who prepare the actual art work for each frame comes to your assistance

9 *To Save Time* You turn a knob, a whole new picture appears on the screen—a form or statement that would require a teacher half an hour or more to draft on the blackboard

10 *To Review the Course* In 10 or 15 minutes, using wisely selected filmstrips a teacher can review the whole bookkeeping cycle, in an hour a whole course¹



Student using a filmstrip for remedial instruction. The teacher's narrative explaining the filmstrip is being played on the tape recorder as the student observes the film. The portable chalkboard (shown at the left) is used here to partition the projection area from the rest of the classroom. This arrangement reduces the outside light thus permitting easier viewing.

To facilitate the use of filmstrips for remedial instruction and make up work, a table with a mounted projector should be permanently located in the darkest corner of the room. A small 30 inch-square white screen can be painted on the wall. If necessary, a small frame can be built to shade the screen. With this arrangement, indi-

¹ M. Herbert Freeman and J. Marshall Hanna. *How to Use Bookkeeping Filmstrips*. *Business Teacher* vol. 32 p. 2 September-October 1954.

visual students may use the filmstrip without disrupting the entire class

The purchase of filmstrips can be justified for any school if they are used a number of times in the same class

OTHER VISUAL AND AUDIO AIDS

Opaque Projector The opaque projector may be used to project forms and pictures used in bookkeeping. Materials mounted on light weight cardboard are most practicable. However, when a series of forms are to be shown, they may be mounted on a long strip of paper and fed through the machine. Illustrations in the textbook may also be thrown on the screen by the use of the opaque projector, which may also be used to project samples of student work on the screen for examination by all members of the class. Corrections on a paper can be pointed out for the benefit of all class members. The opaque projector may also be used to rule a business form on the chalkboard. The form is projected on the board surface and the ruling done from the projected outline.

The chief advantage of the opaque projector is that materials may be shown in their original form without the necessity for copying them. Its chief weakness is that the room must be darkened for satisfactory reproductions on the screen.

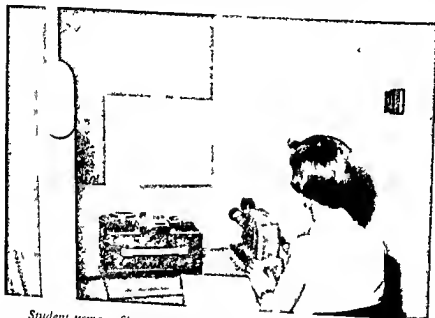
Overhead Projector When the Vu graph, Visualcast, and overhead lantern slide projector are used, the teacher may, either standing or sitting at his desk, write on the platform of the machine and the writing will be projected on a screen or wall in front of the class. Commercially prepared bookkeeping forms including work sheets, journal forms, and ledger forms are available for use with these machines. As the teacher at the projector writes on the forms with a wax pencil, the form and his writing are projected in magnified form on a screen or on the wall back of him. The advantages of these projectors are that they save the time of drawing forms on the board, the instructor can face the class and do all demonstrations, and the projection can be high enough on the front wall or screen so that all students may see.

Slides Commercially prepared slides designed for use in bookkeeping may be purchased. See Appendix H. A teacher who is inter-

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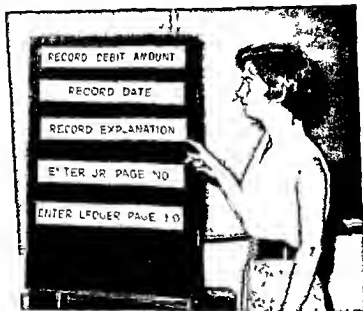
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Slides Commercially prepared slides designed for use in bookkeeping may be purchased. See Appendix H. A teacher who is inter-

ested in photography can prepare his own slides. The preparation of bookkeeping slides would be an interesting project for a student club.

Flannel Board The flannel board may be used as a display board or as a teaching device. For example, the flannel board may be used to identify and summarize the steps in posting from the journal to the ledger. Strips would be prepared identifying each step, for



The flannel board is being used to emphasize the correct steps in posting procedure.

example, 'First, record the amount,' 'Second, enter the date,' and so on. As each step is demonstrated on the chalkboard, the appropriate strip is placed on the flannel board. When the demonstration is completed, the flannel board may be used to summarize the procedure.

Tape Recorder The tape recorder may be used to add variety and realism to the classroom. In preparation for class, a series of transactions may be dramatized by students, and the class requested to identify the transactions and record them in journals as they listen to the playback of the dramatized skit. Students become so accus-

tomed to seeing transactions only in textbook printed form that they frequently do not recognize a realistic transaction

The tape recorder may also be used to narrate filmstrips and to record talks made by visitors to the class for playback the next day when the class is discussing the talk. They may also be used by student committees for interviewing business people and for recording radio talks, such as the talks made each year on preparation of income tax forms

PROBLEMS, QUESTIONS AND PROJECTS

1 Make a list of the items you would look for in evaluating a teacher's use of the chalkboard

2 Construct one of the following and be prepared to demonstrate its use

- a A cardboard set of work-sheet headings to be placed at the top of the chalkboard when using a work sheet form
- b A set of flash cards
- c A chart or poster

3 Demonstrate one of the following

- a How to rule a ledger account form semipermanently on the chalkboard
- b How to use cardboard panels to cover material until needed in a demonstration
- c The correct way to use a yardstick and rule lines on the chalkboard

4 Plan a chalkboard demonstration on one of the following topics

- a How to balance and rule accounts
- b How to record a note receivable in the general journal
- c How to reconcile a bank statement

5 Explain how a bulletin board may serve to improve interest in the bookkeeping classroom. Be specific

6 Prepare a bulletin board display on some topic related to bookkeeping

7 Prepare a check list for evaluating (a) a motion picture film, (b) a filmstrip to be used in a bookkeeping class

8 How can filmstrips be used for follow-up work after a test has been given?

9 How would you justify to your high school principal the cost of purchasing a \$45 set of filmstrips if you had only one elementary bookkeeping class each day?

10 Prepare a flannel board demonstration on one of the following topics

- a Steps in the bookkeeping cycle
- b Steps in posting from the journal to the ledger
- c Steps in balancing and ruling a ledger account
- d Preparation of the trial balance

11 Prepare a dramatized skit related to some bookkeeping topic, have the skit recorded on a tape recorder for playback to your class

CASE PROBLEMS

1 To facilitate checking a bookkeeping teacher has the previous night's homework assignment placed on the chalkboard at the beginning of the class period. He reported that he had difficulty getting students to place their homework on the board until he announced that he would add 10 points to the grade of the paper of any student who volunteered to arrive at class early and place the work on the board. The daily rush of students arriving before class to earn the 10 points became so great that he had to set a maximum quota of 10's to be earned by any one student.

What do you think of this plan?

2 Chester Allen, a bookkeeping teacher in Chicago, reported on a newspaper published by his bookkeeping class.

About twice a semester our bookkeeping class publishes a two or three page duplicated newspaper. You might not think that a course in bookkeeping lends itself to such a project, but it actually does very well. Recent issues have carried such accounts as these:

Winning honors in the BT (Business Teacher) bookkeeping awards program findings of an informal survey on salaries of bookkeeping alumni suggestions to schoolmates on filing income tax returns profile of an outstanding alumnus report of a visit to an accounting firm's office etc.

In addition, the class likes to run such special features as a bookkeeping honor roll for penmanship or figure writing or use of ink, answers to the questions most commonly missed on quizzes, bookkeeping cartoons, personal news, roster of class committees, etc.

We have found that our *Ledger* has spurred interest in bookkeeping not only in the class but throughout the entire school. Enrollments are up!

What other news ideas can you think of that would be appropriate for such a newspaper?

SELECTED READINGS

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- Delta Pi Epsilon Committee *Bookkeeping*, "Good Classroom Practices in Business Education" Monograph 85, South-Western Publishing Company, Cincinnati, 1953, pp 8-12
- Jacobs, Harry G "Lining the Chalkboard in the Bookkeeping and Accounting Classroom," *Business Education Forum*, vol 9, pp 15-16, December, 1954
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- Marks, Virginia Daniels "Is Your Bulletin Board Scene Seen?", *Business Education Forum*, vol 10, pp 17-19, January, 1956
- Mintz, Betty S "Visual Demonstrations in Bookkeeping," *Business Education Forum* vol 9, pp 19-20, December, 1954
- Satlow, I David "Bookkeeping Classroom Management—Using the Chalk Board Effectively," *Business Education World*, vol 37, pp 22-24, November, 1956
- Stich, Virginia "Bulletin Board Displays for Business Classes," *Journal of Business Education*, vol 33, pp 164-166, January, 1958
- Swanson, Robert "Bulletin Boards in Bookkeeping," *Business Education Forum*, vol 13, pp 30-31, February, 1959

Using Community Resources

BOOKKEEPING GRADUATES frequently report that they do not keep books in business as they were taught to do in school. This, of course, is true. Records in business are, to a certain degree, tailor-made in terms of the needs of the particular business. A bookkeeping system appropriate for one type of business may not be adequate for another. Underlying all double-entry records, however, are the same basic principles, but the application of these principles may vary from one business to another. To attempt to cover in an instructional program the various applications of the principles to the hundreds of different types of businesses would be impractical.

The relationship between the principles and procedures as taught in the classroom and their application in business can be shown (1) by taking students to business offices in the community to observe how records are kept, and (2) by bringing business records into the classroom for examination. Thus, if our bookkeeping course is to be practical, we must use community resources.

A wide variety of different types of records can be observed in the business areas close to most schools. There are usually chain stores, service type businesses, small specialty shops, restaurants, and offices of professional men. There may be a public utility, a manufacturing concern, a small department store, an accounting firm, and a bank—and do not overlook the records kept in the school office. Some of the businesses may be large, others may be small. Some may

be single proprietorships some partnerships and others corporations

The proximity of businesses to the classroom makes possible the arrangement of class field trips to business firms without disrupting the students school program Many trips may be made within the regular class period Others may be arranged for free periods and after school

FIELD TRIPS

The following listings suggest the types of activities that students can observe in local field trips

At the Local Bank

Purpose and procedures for preparing deposit slips and making bank deposits

Writing checks and drafts and making withdrawals

Reconciling the bank statement

Obtaining loans preparing notes and calculating interest

Using safe deposit boxes and night depositories

How the bank keeps its records with depositors

How posting machines are used

At Offices of Local Doctors Dentists and Lawyers

How appointment books are kept

How charges and cash payments are recorded

How patient and client accounts are kept

Use of petty cash records

At Office of Manufacturing Company

Payroll procedures and records

Depreciation calculations and records

Procedures for handling cash receipts and cash payments

How customer and creditor accounts are kept

Preparation of financial reports

Stock certificates and records

At a Local Chain Store

How inventory records are maintained

How incoming merchandise and invoices are checked

How the cash register is used and how cash is balanced and proved

How reports are prepared

At Office of Electric Company

- How electric bills are calculated and recorded
- Payroll procedures and records
- How cash receipts and cash payments are recorded
- How property records are maintained and depreciation is recorded

At a Local Store, Filling Station, or Garage

- How the cash register is used and how cash is balanced and proved
- Sales and purchase records and procedures
- How cash receipts and cash payments are recorded
- What journals, ledgers, and other account books are kept and used
- What financial reports are prepared

One bookkeeping teacher reported that the visiting day project was one of the most interesting and worthwhile projects of the entire year. She states, "Our high school bookkeeping classes have taken on a new meaning for these students who saw for themselves how bookkeeping is done in a business office."¹

STUDENT COMMITTEES

When class field trips are not possible or desirable, student committees may be used. Instead of taking the entire class to one business, the teacher may divide the class into committees of four or five students each. Each committee is assigned the responsibility for obtaining certain information from a designated business. For example, in a discussion of the various ways that accounts receivable are kept by businesses, different committees may be responsible for obtaining the information from a doctor's or a dentist's office, from a lawyer's office, from a department store, from a grocery store, and from a manufacturing firm. Each committee plans its visit, obtains the information, and reports its findings to the class.

Similar committee assignments may be made when the class is studying procedures for handling and recording cash, purchase and sales procedures and records, special journals, multiple column journals, inventory procedures, preparation of financial reports, property records and depreciation, payroll records, use of accounting and

¹ Violet McColley "A Bookkeeping Project" *The Balance Sheet* vol. 33, p. 70 October, 1951

posting machines, and opportunities in the field of bookkeeping and accounting

The committee plan has several advantages. It places responsibility on the students. The development of a willingness to assume responsibility is a desirable educational outcome. This can be achieved, however, only by placing students in situations where they have the



Impex Corporation

Bookkeeping Students Interviewing a Businessman. The interview is being recorded on the tape recorder. Later, the recording will be used in the committee's report to the bookkeeping class. The tape can then be stored and used by future bookkeeping classes.

opportunity to assume responsibility. The committee plan provides such an opportunity.

Because the committee must explain to the other class members the recording procedures observed, the committee plan gives the students an opportunity for verbal expression.

INDIVIDUAL PROJECTS

Another plan that may be used effectively is to have each student in the bookkeeping class select a specific business firm in the community for intensive study. This business becomes "his firm." As each topic is presented in class, the student is responsible for deter-

YOUR BOOKKEEPING MANUAL

At the end of this course you will be required to submit a manual outlining the bookkeeping procedure followed by the business firm you have selected for study.

Your manual should contain the following information:

1. Name of firm and its location
2. Description of the business (kind of business it is, what it buys and sells or manufactures, number of employees, whether it is a single proprietorship, partnership, or corporation.)
3. Description of its records. It is suggested that you organize your manual according to the following headings. Under each heading you will find a series of questions. Your manual should answer these questions and contain any other information you think is important. Include, when possible, actual business forms or drawings illustrating your firm's records.

Cash Receipts

Is a cash register used? If so, what information is obtained from it for the records? How is cash proved at the end of the day?

Are all cash receipts deposited in the bank? If not, what procedure is followed?

Where are cash receipts recorded? (Describe and illustrate.)

Cash Payments

How are bills verified for payment?

Are all bills paid by check?

Where are cash payments recorded? (Describe and illustrate.)

Is a petty cash fund kept? What type of items are paid from petty cash?

How is the fund organized and recorded?

Purchases

How are orders for merchandise prepared?

How are invoices checked and filed?

Where are purchases recorded? (Describe and illustrate.)

Is a separate ledger kept for creditor accounts? What kind of account form is used?

What are the sources for entries to creditor accounts?

Sales

How and where are cash sales recorded?

How and where are credit sales recorded?

Are sales slips prepared for all sales? How are sales slips checked and filed?

Is a separate ledger kept for customer accounts? What kind of account form is used?

Statements

What is the length of the fiscal period used by your firm?

How is merchandise inventory obtained? How frequently is inventory taken?

What financial statements are prepared?

Are the books kept on a cash basis or an accrual basis?

What adjusting entries, if any, are made?

mining how his firm carries out that recording procedure. The reports are discussed in class.

A manual may be prepared by each student. The student collects the information and business forms throughout the year and submits the finished manual at the end of the course.

A list of suggested instructions to the student for preparing such a manual is given above. When this plan is used, the bookkeeping teacher should write a letter to each firm selected by the students. The letter explains the purpose of the plan and solicits the co-operation of each company.

When it is not practical to have each student select a business, the committee pattern may be used, with each committee assigned to a given business.

WORK EXPERIENCE

The opportunity for providing some students with actual work experience in businesses in the community should never be overlooked. No better learning situation can be provided than that of having students employed in part time bookkeeping work and at the same time studying bookkeeping in the classroom with the instructor co-ordinating the two activities.

Work experience programs can be highly organized and may involve all class members as is done in certain schools, or they may be less formalized and may involve only a few members of the class. These students may be selected from the more capable students, thus providing opportunities to meet individual differences. A few students working in business will greatly enrich the classroom experiences of all the students through the reports and comments they bring to the classroom.

Many bookkeeping students are employed in some form of part time work. Because of this work connection these students are in a position to obtain information about the record keeping procedures followed by businesses. As the student's ability in bookkeeping grows, perhaps the teacher can be influential in obtaining assignments to duties requiring a greater use of bookkeeping skills.

The Junior Achievement Program provides an opportunity for a limited number of students to obtain practical and valuable work experience. In those communities where Junior Achievement pro-

grams are in operation, the bookkeeping teacher may wish to encourage bookkeeping students to participate in the program

EXPERIENCE THROUGH SCHOOL ORGANIZATIONS

One does not need to go outside the school itself to provide practical record keeping experiences for some students. The school bank, the school cafeteria, and the school clubs and organizations require records. In addition, benefits or drives, such as the Red Cross and the Community Chest, must keep records. Some of this work can be brought into the classroom and used as the basis for class discussion, to illustrate certain procedures, and to provide practical experience for some students. In assuming work of this nature, however, the teacher must make certain that all the work done by students is carefully guided and checked. Otherwise student inaccuracies may subject the teacher and the class to justifiable criticism. The possibility that one student may be expected to spend more time on such an assignment than its educational values justify needs to be examined.

BUSINESS FORMS

Students respond favorably to live material. The use of business forms bearing the names of local firms with which students are acquainted brings an atmosphere of reality into the bookkeeping classroom. For this reason, many business teachers maintain an extensive file of business forms that have been obtained from the local community. This file contains sales slips, invoices, checks, deposit slips, monthly statements, purchase orders and requisitions, inventory sheets, notes, drafts, trade acceptances, payroll forms, journal and ledger forms, petty cash receipts, financial statements, and other similar forms from a variety of businesses in the community.

So that the forms may be protected for use year after year, they may be mounted on cardboard or some other firm surface and covered with clear plastic film. The opaque projector is particularly advantageous for the displaying of these forms for discussion.

GUEST SPEAKERS FROM BUSINESS

Local businessmen, accountants, former high school graduates, and government officials are usually very co operative in coming to

the school to discuss with high school classes problems concerning bookkeeping, personnel, and other business matters

Businessmen Businessmen may discuss their records business procedures, employment opportunities, personal and educational requirements for employees, and other similar topics

Graduates Former high school graduates employed in book keeping positions can be invited to report and discuss their experiences They can explain the forms and records used by their firms, specify the skills and knowledges required in their work, and give valuable suggestions to students preparing to work in business

Government Officials Officials from the Internal Revenue Service, if an office is located in your community, will be glad to discuss the preparation and filing of individual tax returns Representatives of the state employment service welcome the opportunity to discuss employment possibilities with high school classes

Class Planning Planning for and with the guest speaker is necessary A few days before the appearance of a guest speaker, the class prepares questions that they would like to have answered Plans are also made for the question and answer period with the speaker As many businessmen are not accustomed to talking to high school student groups, the speaker is usually provided with a list of questions and topics that the class would like to have discussed The time schedule also may be indicated so that adequate time will be provided for class questions following the talk The following nine points should be included in the invitation to the speaker (1) subject and grade of class, (2) age range, (3) topic under study, (4) size of class, (5) time and length of period, (6) suggested topic of talk, (7) why the invitation has been extended, (8) questions students will expect to have answered, and (9) suggested illustrative materials or demonstrations which the class and teacher believe would be helpful

The appearance of a businessman as a guest speaker is more than an opportunity to enrich bookkeeping, it also constitutes a medium of public relations for the business department and the school Therefore, the plans for the guest speaker should be carefully made so that he will leave with a feeling of having done a good job, that the class appreciated his efforts, and that his time was well spent

If a tape recorder is available, the guest's talk might be recorded. Excerpts from the recording may then be used in the class discussion which should always follow the appearance of a guest speaker. These discussions are necessary to clarify questionable points and misinterpretations on the part of students and to evaluate what the students gained from the presentation.

OTHER SUGGESTIONS

The following additional suggestions may be helpful in the use of community resources:

1. Make a survey of the businesses located close to your school. See how many different types of records may be found within a radius of a few blocks from your school.
2. Plot the businesses on a large poster. Make this poster a permanent exhibit in your bookkeeping classroom. Make these businesses your *bookkeeping laboratory*.
3. Help your students to see the practical values of your bookkeeping course by showing through class, committee, and individual field trips the application of the course to the businesses in *your community*.
4. Take the "excursion" out of the field trip (a) by using the resources near your school, (b) by planning each trip so that it can be completed within one or two class periods, and (c) by designing each trip to provide observation of a specific recording activity, not an over all tour of an office or of a complete accounting system.
5. Experiment with class, committee, and individual field-trip plans and determine which is the most effective for you, your students, the observation point, and your community.
6. In planning and executing field trips, give your students an opportunity to assume responsibility, to develop initiative, and to exercise self expression.
7. Keep a file on local businesses for your use in planning class, committee, or individual field trips. The file should contain such information as name of person to consult, description of records, special recording features that should be observed, summary of previous field trips and common questions students ask on their return.

PROBLEMS, QUESTIONS AND PROJECTS

1 Some teachers who do not use community resources contend that businessmen do not wish to be bothered by students. They argue that businessmen are busy and should not be asked to take time to answer student questions, gather materials, provide information or give talks to classes. What safeguards can you suggest to insure that students do not become nuisances in gathering materials and information for your bookkeeping classes?

2 Your high school principal objects to field trips on the grounds that they disrupt the entire school program; they require absences from other classes; and they are more excursions than educational experiences. How would you justify the use of field trips in connection with bookkeeping?

3 Select a high school with which you are familiar and make a survey of the various types of businesses located within a one mile radius of the school. Prepare a chart or a bulletin board display showing the findings of your survey.

4 Select one of the businesses located near the school (see Problem 3), and prepare a list of the bookkeeping activities that a bookkeeping class could observe in a field trip to the business.

5 Assume that you wish to arrange a field trip for the bookkeeping class to a local bank. Indicate the specific steps you would follow in planning the trip.

6 Gather a series of business forms from one type of business such as a store, a bank, or a garage and prepare a bulletin board display of these forms.

7 Indicate the specific steps you would take in planning for consulting with and following up a guest speaker for your bookkeeping class.

8 What bookkeeping information, if any, can students observe from the records and administration of the high school cafeteria? Indicate the various ways that you would use this information and the records in your bookkeeping class.

9 Your high school principal requests that you appoint a bookkeeping student to assume responsibility for keeping the funds for the school Red Cross drive. Would you approve the idea? How would you carry it out? What would be your criteria in selecting the student?

10 "A few students working in business will greatly enrich the classroom experiences of all of the students." What does this statement

mean to you? What suggestions can you make to insure that all students share as fully as possible in the experiences of the few?

CASE PROBLEM

Through the co-operation of the local chapter of the National Office Management Association, the business teachers of Hamilton High School arranged for a Business Office Education Day to be held early in the school year. The plans for the day were that each student in the bookkeeping and shorthand classes would spend one day at an office. Each student was to be assigned to a specific office worker and was to spend the day observing the kind of work done by this person. The day of observation was to be followed by a dinner at which time a panel of businessmen would discuss what they looked for in hiring office employees.

When the plan was submitted to the high school principal for approval, he objected on the grounds that a full day was too much to spend in observation and that the same objectives could be accomplished by having the students visit the offices in the afternoon only. He further objected to having both junior and senior students participate. He expressed the opinion that while such an activity might be appropriate for seniors, especially if it were held late in the school year and just before they went into employment, he could see little value in it for juniors. The juniors, he stated, could participate next year when they were seniors.

To what extent do you agree or disagree with the principal?

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Introducing the Course

WHAT ARE SOME OF THE conditions that will help students get off to a good beginning in bookkeeping? A partial list of such conditions follows

- 1 A pleasant atmosphere—both teacher and classroom
- 2 Proper heat, light, and ventilation
- 3 Suitable equipment and supplies
- 4 An 'at easeness'—on the part of both students and teacher
- 5 A feeling by the student that he is going to like the course and succeed in it
- 6 An idea of the values to be attained from the study of bookkeeping
- 7 A well-organized procedure

How can these conditions be attained and thus assure an excellent beginning?

The teacher should arrive at the school a day or two before classes begin (Most schools require this so that the teacher may attend the first faculty meeting.) He should see that school provided materials and supplies are available, that the classroom and chalk boards are clean, that the furniture is arranged properly, and that the lighting is adequate. The room should have a thermometer, preferably placed approximately four feet from the floor

Probably one of the most important objectives for the first day of class is to impart to the students a feeling that they are going to like bookkeeping and the bookkeeping teacher. Above all else the first day's session should be conducted in such a way that the students will leave the room at the end of the period feeling glad they have been present.

Successful teachers help the students get acquainted with the teacher and with one another. The teacher writes his name on the board and pronounces it. He may want to tell the class something about himself and some of the things he enjoys doing in his spare time, or relate a humorous story or anecdote. In a large school or in a consolidated school where the students are not likely to know one another, it would be well to have each student stand and introduce himself. It is particularly advisable to have the students introduce themselves in college classes for they nearly always come from many different communities. Each student can give his name, the school he last attended, his classification in school and perhaps state *why he chose to study bookkeeping and how he plans to use it*. In a small high school, where all the students may know one another it might be desirable to restrict the procedure to this last statement. Instead of having all students do this, the teacher may ask for volunteers or call upon selected students.

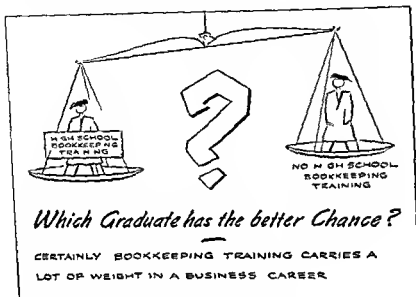
The teacher should follow these student reports by supplementing what they say. He should have prepared beforehand a long list of ways in which bookkeeping may be used. Such a suggested list is given below. The teacher may want to tell of certain graduates who are using their bookkeeping skill in business positions.

USES OF BOOKKEEPING

Personal Uses

- 1 Keeping records and budgets
- 2 Choosing a bank and keeping a checking account
- 3 Reconciling the bank statement
- 4 Reading and understanding the financial section of the news paper
- 5 Keeping records for social or business organizations and fraternities (club treasurer)
- 6 Serving as a member of the audit committee for an organization

- 7 Preparing personal income tax forms
- 8 Analyzing corporation financial reports for investment and security purchases
- 9 Using business services more effectively



Vocational Uses

- 1 Secretary—
 - a understanding the financial reports that must be typed
 - b keeping the employer's personal books
- 2 Bookkeeper—
 - a keeping records for a business firm
 - b keeping books for a small business "on the side" at night or on Saturdays
- 3 Accountant—
 - a opportunities for specialization (tax, cost, and governmental accounting)
 - b preparing income tax returns for others
- 4 Politician or statesman—all government agencies and institutions operate on budgets and submit financial reports
- 5 Teacher of business subjects
- 6 Lawyer—accounting makes an excellent "related field" with law
- 7 Farmers, professional men, teachers, and proprietors of small businesses who keep their own records
- 8 Those who intend to take advanced training in accounting

The film "Bookkeeping and You" ¹ is an excellent one for use in high school classes this first day. This film shows a bookkeeping class and gives reasons why certain boys and girls are studying bookkeeping. It should be shown after the students have given their reasons and before the teacher supplements their statements. For college groups, the film "Accounting: The Language of Business" ² or "Bookkeeping and Accounting" ³ would be preferable. These films emphasize the accounting phases and feature adults, whereas "Bookkeeping and You" features high school youth.

In order that he may become acquainted with his students, the teacher might request each student to complete a form that gives information about himself. An example of such a form is shown below. This form could be supplemented by having each student write a brief autobiography.

BOOKKEEPING CLASS QUESTIONNAIRE

- 1 Name _____ Sex Male _____ Female _____
 (Last) (First) (Middle)
- 2 Address _____ Phone Number _____
- 3 Father's name _____ Occupation _____
 Where employed _____
- 4 Mother's name _____ Occupation _____
 Where employed _____
- 5 With whom do you reside? _____
- 6 Brothers } _____ Age _____ Occupation _____
 and } _____ Age _____ Occupation _____
 Sisters } _____ Age _____ Occupation _____
 _____ Age _____ Occupation _____
- 7 Your grade in school _____ To what clubs or organized groups
 do you belong? _____

(Continued on next page)

¹ Bookkeeping and You. This film shows a typical high school class and gives various student's reasons for studying bookkeeping. See Appendix H for additional titles.

² Accounting: The Language of Business. This is a guidance film illustrating the advantages of public accounting as a career. It shows what a CPA does and how one prepares for accounting as a career. See Appendix H for additional titles.

³ Bookkeeping and Accounting. This film gives a description of the jobs performed by bookkeepers and accountants, the tools they use and the education necessary for advancement. See Appendix H for additional titles.

- 8 What offices have you held? _____ What prizes, honors or awards have you received? _____
- 9 Have you taken any of the courses listed below? (Underline the courses that you have taken or are now taking)

(List here the business courses taught in your high school)

- 10 What do you plan to do when you finish high school? _____
- 11 If you plan to continue your schooling what course do you plan to follow? _____

- 12 Are you employed outside of school hours? Yes ____ No ____
If employed what do you do?

(Type of work)

(By whom employed)

(Where)

- 13 What other types of work have you done? _____

The use of a seating chart is recommended. The policy as to whether seats are assigned or whether each student be allowed to select his own seat can be announced the first day. Students are asked to select the seats they want the next day and thereafter keep those seats. This seating chart will enable the teacher to check the roll in a few seconds. It will also prove valuable in learning the students' names rapidly and calling them by name after the second class period. Moreover, it gives the students the impression that the teacher has his work organized, and they assume that this same efficiency will be expected of them. (All of this is by example rather than by precept.)

In order that the teacher can be at ease and have confidence in what he is going to do when the class assembles, he should have a detailed plan for that first day—in fact, for each day. That plan should include a statement of the objectives to be accomplished and at least an outline of the day's procedure. One such lesson plan outline that has proved successful is given here. This lesson plan is offered only as a suggestion; it need not be followed verbatim.

A FIRST DAY'S LESSON PLAN

Preparation before school starts

- 1 Check equipment—desks and chairs, bulletin boards, chalk boards, adding machines, projection equipment stapling machine
- 2 Check room arrangement—desks, lighting window shades
- 3 Check supplies—chalk, erasers, board ruler, wastepaper baskets calendar
- 4 Textbook and workbook information
 - a If provided by school, procedure for distribution and supply
 - b If purchased by students, where they may be obtained
- 5 Arrange for projection of film on first class meeting
- 6 Arrange for obtaining film
- 7 Prepare personal data inventory sheets

Targets—Objectives

- 1 To get acquainted with the students
- 2 To help students get acquainted with the teacher
- 3 To help students get acquainted with one another
- 4 To make students glad that they are studying bookkeeping
- 5 To show students how they can use bookkeeping—to sell the course

Techniques—Methods

- 1 Write name on chalkboard and call attention to spelling and pronunciation (College teachers should give office location and hours)
- 2 Write on the board the title and author of the textbook and the workbook and indicate where or how they are obtained
- 3 List on the board supplies needed—pen, pencil, ruler, blotter
- 4 Pass out personal data (inventory) sheets to be filled in
- 5 Introduce self and relate an interesting anecdote
- 6 Have students introduce themselves and give their reasons for studying bookkeeping
- 7 Show film (High school—'Bookkeeping and You'—11 minutes)
(College—'Bookkeeping and Accounting'—11 minutes or 'Accounting The Language of Business'—20 minutes)

- 8 Supplement Steps 5 and 6 by relating uses for bookkeeping knowledge and by telling about former students who have succeeded

Tools—Materials

- 1 Copy of textbook, workbook, and all recommended supplies
- 2 Film—identified in Step 7 above
- 3 Duplicated copies of personal-data (Bookkeeping Class Questionnaire) sheets

No attempt is made to teach any bookkeeping as such this first day. Teaching will start the following day.

THE SECOND DAY

Bookkeeping and accounting can be made interesting and meaningful to the students from the beginning if the teacher capitalizes on the experience, knowledge, and background of the students. This may be done by preparing on the chalkboard, *with the assistance of the students* a 'typical student's balance sheet'. The term 'balance sheet' should not be used, in order to keep the discussion simple and on the students' level. This can be accomplished by solving the problem of determining the net worth of a student.

After the problem has been initiated, the students will proceed to list several items which they own and to give the estimated value of each item. The teacher should then ask for any debts that might be owed. The students will suggest several items owed and the teacher would list these to the right side of the "Things of Value Owned". After all the "things owned" and all the "Debts Owed" have been listed, it is easy to determine the student's 'Net Worth'.

The personal approach should definitely be carried out on a co operative basis with the students participating freely. Students show much more enthusiasm if they are allowed to participate in the discussion and express their ideas and opinions.

The teacher should anticipate before class the items that a 'typical' high school student in the class might own or owe. The items will vary in different geographical and social environments and with the age and experience of the students. From this analysis the teacher can formulate a simple balance sheet for the lesson plan. The balance sheet should include examples of asset, liability, and proprietor-

ship accounts so that throughout the early part of the course it can be used for reference *Be sure to include an account receivable and an account payable* The formulated balance sheet should look something like this

<i>Things of Value Owned</i>		<i>Debts Owed</i>	
<i>Money</i>	<i>\$ 100</i>	<i>Debt on Motor Vehicle</i>	<i>\$ 150</i>
<i>Savings Account</i>	<i>150</i>	<i>Debt on Watch</i>	<i>20</i>
<i>Motor Vehicle</i>	<i>300</i>	<i>Total Debts</i>	<i>\$ 200</i>
<i>Clothes</i>	<i>200</i>		
<i>Owned by a Friend</i>	<i>5</i>	<i>Net W. N.</i>	
<i>Watch</i>	<i>50</i>	<i>John Doe</i>	<i>605</i>
<i>Total</i>	<i>\$ 805</i>	<i>Total</i>	<i>\$ 805</i>

The balance sheet developed in class should be similar to the one included in the teacher's lesson plan The term 'balance sheet' would not be introduced until the problem has been completed

After the completion of the 'balance sheet,' the terms "assets," "liabilities," and "proprietorship" are introduced to the class It is pointed out that the total of the assets equals the combined total of the liabilities and proprietorship The students can readily see that assets equal liabilities plus proprietorship by looking at the simple balance sheet which they have just prepared The all important point to remember is *From the beginning pull the students into the discussion and make it a practice to let them supply the needed information*

After the meanings of 'asset,' "liability," "proprietorship," and "balance sheet" have been explained, the usual balance sheet terms may be used instead of those used in the first presentation, for example, "assets" instead of "things of value owned" and "liabilities" instead of "debts owed"

At this point all members of the class could prepare their own balance sheets They may use data appropriate for their own personal balance sheets or data supplied by the teacher Students may find it interesting to work in groups of two or three They could prepare balance sheets for a school organization or a small business If there is not sufficient time to complete this balance sheet in class, it can be prepared as the out of class assignment to be completed before the next class session

Adaptability of the Lesson Plan Some teachers of bookkeeping

want their students to do a little record keeping during the first class session. To make this possible, the procedures given for the first and second days may be altered slightly.

The showing of the suggested films would be appropriate any day during that first week. In fact, the film may not arrive on exactly the day for which it is ordered, and the delay will require some alteration of the lesson plan as originally prepared. Of course, films should always be ordered well in advance of the time they are to be used. A film for the first week of school should be ordered during the latter part of the previous academic year or at least during the early part of the summer.

A different and novel approach for the first day of teaching bookkeeping is provided in the prize winning lesson plan given in Appendix I.

PROBLEMS, QUESTIONS AND PROJECTS

1. Revise the questionnaire shown on pages 113-114 to fit the needs in your school.
2. Suggest ways, in addition to those discussed on pages 111-112, in which students may use their bookkeeping knowledge.
3. Prepare a diagram to be used as a room plan for your classroom.
4. One class in methods of teaching bookkeeping suggested the following activities as suitable for the first week of bookkeeping. Select those which you think are most worthwhile and indicate why you like them.
 - a. Invite one of last year's graduates to speak to the class.
 - b. Have students tell why they are taking bookkeeping.
 - c. Give a brief history of bookkeeping.
 - d. Have each student visit a bookkeeper whom he knows personally to discuss his duties and activities.
 - e. Have students bring to class the classified section of the local newspaper and discuss the ads—for bookkeepers for jobs requiring a combination of bookkeeping and other skills.
5. Do you think that students should be assigned seats or should they be permitted to choose a seat? Give reasons for your answer.
6. To simplify the learning process, it has been recommended that only round numbers should be used in the early lessons of bookkeeping. In listing the student's balance sheet items on the board from student contributions, suppose a student gave a figure as \$19.98. Would you use the figure? Explain your answer.

CASE PROBLEMS

1 A teacher introduces the bookkeeping course by passing the following problem to her class "Roger Johnson wishes to start a small grocery business. What does he need in order to open for business?"

As answers are given—cash, groceries, equipment, and other items—she writes them on the board. Later, dollar amounts are assigned to each item and then a simple balance sheet is prepared.

What are the strengths and weaknesses of this method when compared with the plan of starting with a balance sheet of an individual student rather than a small business?

2 One teacher suggests that the last day of the first week in bookkeeping be devoted to a discussion of good *work habits*. The teacher writes these words on the chalkboard, then discusses with the students the importance of these habits: neatness, care of pens, use of ink and rulers, promptness, regularity of attendance.

a What do you think of this idea?

b If you like it, how much time would you spend on it?

c How could this point be presented more forcefully than by just "telling" students?

3 Ethel Walz has been teaching in the Hughes High School for the past three years. This year in her bookkeeping class she has thirty-two students with a wide range of ability. After completing the first four weeks of the course covering the fundamental equation, the theory of debits and credits, and the accounts, Miss Walz gave an objective test. The result of the test revealed that some students had a superior knowledge of the content that had been covered, and were ready to move forward. On the other hand, a number indicated a very inadequate background. In fact, some appeared to be very confused. Between these extremes were some students who indicated a fair understanding of the topics.

To continue the course would mean that several students would become more confused and would soon reach the point where they could achieve very little in bookkeeping. To start over would result in wasting the time of many students and running the risk of their becoming bored and losing interest in bookkeeping. After weighing the alternatives, Miss Walz decided to proceed. She reasoned that it was more important to maintain the interest and progress of the better students, as they would probably be the ones who would use the bookkeeping knowledge. The poorer students, Miss Walz reasoned, would probably not understand the material much better after a review, might fail the course anyway, and would be unemployable.

Did Miss Walz make the correct decision? What are the reasons for your answer?

Is there any choice not considered by Miss Walz that would enable her to meet the needs of both the superior students and the slow students?

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CHAPTER 8

Teaching the Analyzing and Recording of Business Transactions

WHEN THE TEACHER is certain that the students understand the three fundamental elements (assets, liabilities, and proprietorship) which compose the simple balance sheet, and the relationship of these three elements in the formation of the basic bookkeeping or accounting equation ($A = L + P$), the class is then ready to proceed to the next topic, analysis of business transactions. The introduction of the new topic, however, should not be rushed. The adage "make haste slowly" is especially applicable to bookkeeping. Unless students thoroughly understand the basic principles as they are presented in the beginning of the course, they may never understand bookkeeping.

TARGETS—OBJECTIVES

The objectives of the lessons on analyzing and recording business transactions are the development of the following points

- 1 The meaning and function of an account
- 2 The meaning of the terms 'debit' and 'credit'
- 3 The rules for recording the increases and decreases in assets, liabilities, and proprietorship (sometimes referred to as the rules of debit and credit)
- 4 The ability to analyze and record business transactions

TECHNIQUES—METHODS

The importance of presenting new subject matter in bookkeeping in terms of what the student already understands was emphasized in the preceding chapter. For this reason, the fundamental equation and the simple balance sheet with which the student is now familiar are used as points of departure in teaching the effect of transactions upon the fundamental equation and upon the balance sheet and in developing the principles of debits and credits. The fundamental equation and the balance sheet developed for John Dale in a previous lesson would be placed on the chalkboard.

The teacher may begin by saying, 'Let us take a look at John's balance sheet, which we prepared in a previous lesson. Suppose John pays the amount he owes on his watch, then he no longer has that liability and his fundamental equation and the balance sheet would change.' To illustrate this change, the teacher may draw lines through the affected amounts on the balance sheet and insert the adjusted figures thus retaining on the board the old figures and at the same time showing the changes.

John Dale			
Balance Sheet (Current Day)			
Assets		Liabilities	
Money	\$ 100.00	Bills on Motor Scooter	\$ 1.00
Savings Account	1.50	Robert's Debt	25
Mother's Pocket	300	Total Liabilities	\$ 26.00
Clothes	200	Assets	
Owed by Friends	5	John Dale's Capital	205
Watch	50		
Total Assets	\$ 606.50	Total Liab. & Prop.	\$ 606.50

After making the changes shown in the illustration, the teacher would ask the following questions and let the students suggest answers. Then, when the students agreed on an answer, the changes would be shown on the balance sheet by drawing lines through the amounts and inserting the new figures.

'Now suppose John makes a \$25 payment on his motor scooter. What effect would this payment have (1) on the fundamental equation and (2) on the balance sheet?

¹ In this chapter the simulated statements that the experienced teacher might make in presenting the topic are given as illustration for inexperienced teachers.

Suppose his friend pays John the \$5 John has loaned to him. What effect would this have on John's fundamental equation and upon his balance sheet?

Suppose that John buys \$30 worth of clothing from the Campus Shop on credit. What changes on the equation and balance sheet would this purchase make?

The Account After several transactions are analyzed and the balance sheet is changed accordingly the teacher might say. One can see that it would be very impractical to make a new balance sheet after each transaction and making changes on the same balance sheet would be inaccurate and inconvenient. Therefore a special device is used in bookkeeping to record changes in assets, liabilities, and proprietorship resulting from transaction. This device is known as an account.

Various forms of accounts are used in business, but for the present we shall use the simplest form. It is often called a T account because it resembles the letter T.

The balance sheet items would then be set up in T accounts, the asset accounts placed on the left side and the liability and proprietorship accounts placed on the right, as shown here. The amounts shown are taken from the balance sheet shown on page 122 (not all accounts are shown in the illustration).

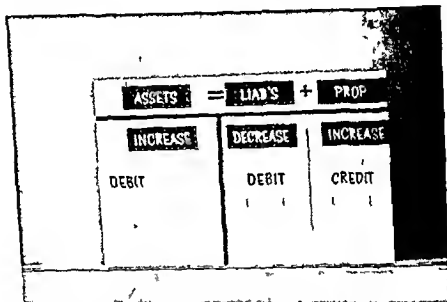
Money	Campus Shop
150	80
Liability Account	Marshall Company
150	20

Since assets are placed on the left hand side of the fundamental equation ($A = L + P$), the beginning amount of each asset account in the balance sheet is entered on the left hand side of the appropriate account. Since liabilities and proprietorship are placed on the right hand side of the equation, the beginning amount of each liability and each proprietorship account in the balance sheet is entered on the right hand side of the account.

Account Headings The heading written at the top of each account is known as the *title of the account*. Each account title should be brief but descriptive of the type of items to be placed

under it. The title of the account with each creditor (account payable) is the name of the creditor. If someone owes the business money, the title of that account should be that person's name. The title of the proprietorship account is the name of the proprietor followed by the word 'capital' or 'proprietorship'.

Debits and Credits We have already learned what assets, liabilities, and proprietorship mean. Today, we want to learn some



The Versatile Pegboard To stimulate interest and add variety to class drill, the pegboard may be used in analyzing transactions. A transaction is given. A student is asked to go to the pegboard and to indicate, by placing of the proper plates, the effect of the transaction on the fundamental equation.

new terms. (The terms 'debit' and 'credit' are placed on the board.) The left hand side of an account is called the debit side.

'When items are entered on the left hand side of an account, they are called 'debits' and the account is said to be debited.' When items are entered on the right hand side, they are 'credits' and the account is said to be credited.' Each item entered on the left hand side of an account is called a 'debit entry.' Each item entered on the right hand side of an account is called a 'credit entry.'

"The increase side of an account is determined by its position in the equation. Assets are on the left hand side of the equation, therefore, when an asset is increased, the entry is made on the left-hand side of the appropriate asset account. Liabilities and proprietorship are on the right-hand side of the equation, therefore, when a liability or the proprietorship is increased, the entry is made on the right hand side of the appropriate account.

"Plus and minus signs are not used in bookkeeping, *addition and subtraction are indicated by position*. When an asset is decreased, the amount of the decrease is always written on the credit (minus) side. When a liability or proprietorship is decreased, the amount of the decrease is always written on the debit (minus) side. It is obvious now that debit does not mean *increase*, for in some cases accounts are *decreased* by debiting them. *Debit refers to the left-hand side and has that meaning only*."

The teacher should then develop the following board illustration and explanation

A		=	L		+	P	
Assets		=	Liabilities		+	Proprietorship	
Debit increases	Credit decreases		Debit decreases	Credit increases		Debit decreases	Credit increases

Condensed the illustration would appear as follows

Assets		=	Liabilities		+	Proprietorship	
+	-		-	+		-	+

The four steps to be followed in analyzing a transaction would be developed and placed on the chalkboard

Step 1 What accounts are affected?

Step 2 Classify the accounts affected—assets, liabilities, proprietorship

Step 3 How are they affected? (Are they increased or decreased?)

Step 4 Apply the formula

A	=	L	+	P	{ to see if the accounts are to be debited or credited					
<table> <tr><td>+</td><td>-</td></tr> </table>	+	-		<table> <tr><td>-</td><td>+</td></tr> </table>		-	+	+	<table> <tr><td>-</td><td>+</td></tr> </table>	-
+	-									
-	+									
-	+									

Class Drill The teacher would then suggest that the class analyze a series of transactions in accordance with the four steps and would record the transaction in the T accounts on the chalk-board while the students recorded them at their desks

Transactions

- 1 John made a payment of \$25 on his motor scooter
- 2 He purchased \$30 worth of clothing from the Campus Shop and charged them
- 3 He received \$5 he had loaned Bob
- 4 He paid \$5 for the operator's license for his motor scooter

(As many additional transactions should be used as the teacher considers necessary)

The teacher may have some difficulty in getting students to follow the four step procedure in analyzing each transaction. He must insist that they make this analysis, as it will prove of value to them when they work with business transactions which they have not previously recorded. To encourage students to make this analysis, some teachers have the class fill in for all transactions a chart similar to the one here illustrated. Such a chart forces the student to practice this analysis.

Transactions

- 1 Henry Adams invested \$2,000 cash and \$4,000 of plant equipment in a dry-cleaning business
- 2 Purchased for cash office equipment costing \$400
- 3 Purchased from Harry Aldridge Company cleaning supplies worth \$130, to be paid for within 30 days

Trans. no.	What accounts are affected?	What is classification of each account affected?	Are accounts increased or decreased?	Are accounts debited or credited? $A = L + P$ + - - + - +	Amount debited	Amount credited
1	Cash Plant Equipment Henry Adams Cap	Asset Asset Prop	Increased Increased Increased	Debited Debited Credited	\$2,000 \$4,000	\$6,000
2	Office Equipment Cash	Asset Asset	Increased Decreased	Debited Credited	\$400	\$400
3	Supplies H. Aldridge Co.	Asset Liability	Increased Increased	Debited Credited	\$130	\$130

The journal entries can easily be made from this chart. They are as follows

JOURNAL					Page /
DATE	ACCOUNTS AND EXPLANATION	POST REF	DEBIT AMOUNT	CREDIT AMOUNT	
Sept 15 Cash			100.00		
	Plant Equipment			100.00	
	Wes. J. Williams, Capital			100.00	
	Henry Adams invested				
	\$2000 cash and \$1000 of				
	plant equipment in				
	dry cleaning business.				
19 (2) Office Equipment			40.00		
	Cash			40.00	
	Paid cash for office				
	equipment costing \$400				
10 (3) Supplies			15.00		
	Wes. J. Adams Co., pay				
	invoice from Henry				
	Adams Co. pay \$15.00				
	invoice of cleaning sup				
	plies to be paid for 10				
	days				

(The journal entries would not, however, be presented at this time. They are shown here to illustrate how the chart may be used as the basis for journalizing).

Teaching Account Classification Exclusive of arithmetic errors, errors in bookkeeping are of two types—errors in theory and errors in mechanics. A study of theory errors made by bookkeeping students in high school classes revealed that one of the greatest and most prevalent weaknesses pertained to account classification. Students debited or credited accounts incorrectly because they had classified the accounts incorrectly.

To emphasize account classification, an experienced teacher developed the following procedure

1 Always present each new account by showing its proper relation to the fundamental bookkeeping equation. The way to present a new account is to open the T account under the proper account classification in the fundamental equation.

2 Always classify accounts when making bookkeeping entries. Not only does the teacher follow this procedure but he also requires his students, when reciting orally, to do likewise.

Assets		Liabilities		Proprietorship	
+	-	-	+	-	+
Trans 1					
Cash	Plant Equipment			Harry Aldridge Capital	
2 000	+ 000				2 000
Trans 2					
Office Equipment	Cash				
450	400				
Trans 3					
Supplies		Accounts Payable			
150		150			

At the same time that the T accounts are being drawn and the transaction is being recorded, the teacher says "The Cash account is an asset, it is increased by \$2,000, therefore it is debited. The Plant Equipment account is an asset it is increased and therefore debited. The proprietorship account is increased therefore it is credited. For Transaction 3 he says "The Supplies account is an asset it is increased, therefore we debit it. The Harry Aldridge Company account is a liability, it is increased and therefore we credit it."

In other words, accounts are classified at the time each transaction is analyzed. The standard pattern is a short sentence with four blanks "The _____ is a

(name of account)

_____, it is _____;

(classification)

(increased or decreased)

therefore it is _____" The four blanks

(debited or credited)

are filled in and this process carries the student through the four steps necessary to analyzing and recording business transactions. In this way students are taught account classification thoroughly and one of the greatest weaknesses in bookkeeping is therefore avoided.

INCOME AND EXPENSE ACCOUNTS

Before introducing income and expense accounts, most bookkeeping teachers give students sufficient time to master the principles of debit and credit as applied to assets, liabilities, and proprietor-

ship Incomes and expenses are recorded directly to the proprietorship account. This recording develops the concept that expenses represent decreases in proprietorship and are recorded on the debit side, and that incomes represent increases in proprietorship and are recorded on the credit side. From this explanation, it is a logical step to point out that instead of recording expenses and incomes directly to the proprietorship account itself, temporary proprietorship accounts may be opened. Expense and income accounts are then shown in the fundamental equation as subdivisions of the proprietorship account. The teacher explains that as expenses increase, proprietorship decreases, therefore, expenses are recorded in the same way that decreases in proprietorship are recorded—namely, as debits. And that, as income increases proprietorship increases, therefore, income items are recorded in the same way that increases in proprietorship are recorded—as credits.

Purchases and other cost accounts may be introduced as accounts similar to expense accounts and therefore the same rules of debit and credit apply to cost accounts as to expense accounts—namely, they are debited for increases and credited for decreases. This procedure is sound from an accounting point of view.

Procedure 1

$$\begin{array}{rcccl}
 \text{Assets} & = & \text{Liabilities} & + & \text{Proprietorship} \\
 \hline
 + \quad | \quad - & & - \quad | \quad + & & - \quad | \quad + \\
 & & & & \swarrow \quad \searrow \\
 & & & & \text{Expenses} \qquad \text{Income} \\
 & & & & \hline
 & & & & \text{Costs} \\
 & & & & \hline
 & & & & \downarrow
 \end{array}$$

The equation then becomes

Procedure 2

$$\begin{array}{rcl}
 A & = & L + P \\
 & & \searrow \\
 & & (-E -C +I)
 \end{array}$$

By moving the negative items to the left side of the equation with a consequent change in signs from minus to plus we arrive at the same equation, $A + C + E = L + P + I$, as developed by Procedure 1.

SUPPLEMENTARY VISUAL AIDS

The chalkboard is indispensable to the presentation of this unit. All the suggestions for effective use of the board, as presented in Chapter 5, should be observed in the presentation of this unit. The following additional visual aids are recommended.

Filmstrips "Use of Accounts and Analysis of Transactions" McGraw Hill Book Company Bookkeeping Filmstrip Series"

Flash Cards A series of flash cards may be prepared for use with this unit. The cards should be used only for review purposes and not for the initial presentation of the accounts or transactions.

DESCRIPTION The name of each account is written in large letters on a card approximately 4 inches by 14 inches. Cards may be



Supplies

prepared for all the accounts covered in the unit. Additional accounts can be added as introduced in other units.

USE The cards would be used for drill and review. Each card is held up briefly for the class to observe; the students are asked to identify, either orally or on paper, one of the following:

- 1 The classification of the account
- 2 Whether the account has a debit or a credit balance
- 3 Whether the account would be increased (or decreased) by a debit or a credit entry

The cards may be run through several times, with students identifying a different point each time.

Similar flash cards may be developed for drill on transaction analyses. The flash card would show a transaction, for example, Paid \$100 cash for office supplies. Students are asked to give (a) the name of the account debited, (b) its classification, (c) whether

* See Appendix H



Teacher Using Flash Card in Drill on Account Classifications

the account is increased or decreased, (d) the name of the account credited, (e) its classification, and (f) whether the account is increased or decreased

PROBLEMS QUESTIONS AND PROJECTS

1 Why is the adage "make haste slowly" especially applicable to the teaching of bookkeeping?

2 What method do you consider best in teaching the rules of debit and credit in transaction analyses?

3 Some instructors place a plus and a minus sign at the top of each account when it is first introduced, to assist the students in determining which side is the increase side and which side is the decrease side. What do you think of this plan? What are its advantages? Can you think of any disadvantages?

4 Some teachers advise their students that in bookkeeping you "debit what comes in and credit what goes out." Why is this a poor rule to have students memorize and follow?

5 What answer would you give a student who asked this question: "How can we tell if we are keeping our total debit amounts equal to the total credits?"

6 What are the relative strengths and weaknesses of Procedure 1 and Procedure 2 in presenting the income and expense accounts?

7 Teacher A says that it is preferable to show pupils how to record transactions on one day and then wait until the next day to explain the reasoning involved. Teacher B argues that it is better to give the "why" along with the "how." With which teacher do you agree? Give reasons to justify your position.

CASE PROBLEMS

1 An experienced teacher uses the deductive method of teaching analyses of transactions.

a Accounts and transactions are not analyzed on the basis of the fundamental equation or balance sheet. When accounts are first introduced, the students are told by the teacher that "when you receive cash, you debit the Cash account, when you pay out cash you credit the Cash account, when you incur a liability, you credit the liability account, when you pay a liability, you debit the liability account."

b The students then drill on recording transactions. The teacher illustrates each transaction on the chalkboard until the students are able to proceed on their own.

c After the students have learned how to record transactions, they develop the principles deductively. From practice, they deduce that assets are increased by debits, liabilities by credits, and so on. At this point, the teacher directs the class discussion to show the relationship between the account and the fundamental equation and the balance sheet.

The teacher defends this procedure on the basis that learning is more effective and permanent when students develop the fundamental principles and rules by the deductive method.

What is your evaluation of this teacher's procedure?

2 To assist students in analyzing transactions, a teacher distributes a duplicated chart similar to the one shown on page 126. The chart shows a series of typical transactions with each transaction analyzed on the chart for the students' reference. Each transaction is then explained by the teacher, the students following the chart. The students are instructed to place the chart in their notebooks and to refer to it when necessary in doing their homework. If a student comes across a transaction he does not know how to analyze and record, he refers to the chart, finds the equivalent transaction, and studies how it is analyzed and recorded. What do you think of this plan? Explain your answer.

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CHAPTER 9

Teaching the Journal and the Ledger

THE UNIT ON THE ANALYZING and recording of business transactions is logically followed by the presentation of the journal and the ledger. The following objectives are suggested for this unit:

- 1 To understand the functions of the journal and the ledger in the recording process
- 2 To learn how to record transactions in the journal and how to post from the journal to the ledger
- 3 To establish the meaning of such terms as journal, journalizing, ledger, posting, folio, posting reference
- 4 To develop the understanding of the fact that although there are many different types of journals, the principles of journalizing are the same for all
- 5 To learn the significance of the term double-entry bookkeeping

Need for Adequate Background Some teachers report that their students make very satisfactory progress in bookkeeping until they come to the unit on journalizing and then, as one teacher puts it, "The class just falls apart at the seams." If this should be the situation—and unfortunately all too often it is—the trouble is not with the unit on journalizing but with what has gone before. Quite contrary to the teacher's opinion, trouble with journalizing is an indication of *unsatisfactory* progress on previous units. Journalizing

is merely a technique, a procedure. It is the thinking process preceding the actual recording in the journal that causes students difficulty, that is, the analysis of transactions to determine what accounts are affected and the proper debit and credit elements. Once such analyses have been made, recording in the journal is a very simple process. If students have learned well the analyses and the direct recording of transactions in T accounts, they should encounter no special problem with the unit on the journal and the ledger.

THE JOURNAL

The question is frequently raised whether journalizing should be introduced through the two-column journal or through multiple column and special journals. Those bookkeeping teachers who favor the latter point out that the use of multiple column and special journals is more realistic. They emphasize that the two column journal is not extensively used in business. In a large business where several persons are engaged in keeping the company's books, the work can be speeded and performed efficiently when specialization is utilized, therefore, special journals may be used. In a small business, where all records are kept by one person, the work can be expedited if all transactions are recorded in a single journal with several money columns.

Most bookkeeping textbooks and teachers, however, introduce journalizing through the two column journal for the following very important reasons:

- 1 Students learn best when instruction proceeds from the simple to the complex.

- 2 The purpose of the first unit on journalizing is to develop an understanding of the basic principles of journalizing and this can best be done through the two column journal.

Proceeding from Simple to Complex If instruction is to proceed from the simple to the complex, the simplest form of journal should be used in the initial presentation. The simplest form of journal is the two column journal, in which all types of transactions may be recorded. It has two money columns, which are the fewest that can be used for double entry bookkeeping. It is the most effective journal medium for developing the meaning of double entry

bookkeeping. The importance of a thorough understanding of the term is emphasized by Carlson

Probably one of the most misunderstood terms in bookkeeping and accounting is the term 'double entry bookkeeping'. Entire classes of college students have been found to be unable to correctly define this term. So many times they say it means that the original entry in the journal constitutes the first entry, then posting it to the ledger completes the double entry. The meaning used here is that of recording the entry in two parts, a debit and a credit with the total debits equal to the total credits.¹

Developing Basic Principles The two column journal is also the best journal medium for developing an understanding of the basic principles of journalizing. The multiple column journal is but an expansion of the two-column journal. Whether the journal contains two, four, six, or twenty columns, the basic principles are identical. Special journals originated from the two-column journal. The need for special journals and their value can be shown only through comparison with the two-column journal. When students learn journalizing through the multicolumn and special journal approach, they tend to memorize procedures without understanding basic principles.

Avoid Unlearning All too frequently this first two column journal is referred to as the *general journal*. Later, when special journals are introduced, the student learns that the general journal is actually a book of original entry in which entries are made to record transactions that do not appropriately fit into one of the special journals. Although the true "general journal" is similar in form to the two-column journal to which the students are first introduced, its use is considerably different.

The name given to a journal is determined by its function and not by the number of columns it has. Any journal may have a varying number of columns. For example, the general journal may have two columns, although it most frequently has four columns. The term "general journal" is applied to that journal in which entries are made that do not fit into other journals. Therefore, the use of the term "general journal" is confusing when it refers

¹ Paul A. Carlson "Simple-to-Complex Method of Teaching Journalizing," *The Balance Sheet* vol. 25 p. 106 November 1943

also to a simple journal in which all types of entries are recorded. The term *two column journal* is more appropriate when the principles of journalizing are first presented. Thus, there is no unlearning to be done later.

Introducing the Journal Up to the point that the journal is introduced, students have recorded transactions directly in T accounts. The first step in introducing the journal is to point out the need for the journal. One way that this may be done is to place on the chalkboard a series of T accounts with entries taken from a previous problem that the class has completed. The teacher can then ask such leading questions as the following:

- 1 'Can anyone tell me what transactions brought about this credit entry?' (Teacher points to a specific entry)
- 2 'On what date was the entry made?'
- 3 'In which account was the corresponding debit recorded?'
- 4 'Can anyone point out all the transactions that were completed on (specific date)?'
- 5 'Assume that we made an error in recording a transaction in the accounts, how would we locate it?'

The teacher then points out that, to answer these questions and to avoid the difficulties that arise from making entries directly to accounts, a day by day record of all business transactions is kept. This record is called a *journal*. The journal form would then be placed on the board and explained.

One teacher uses the following method of showing the need for the journal. A series of T accounts containing many entries are duplicated on a sheet of paper and distributed to the class. An intentional error has been made in one of the entries. The students are then asked to prepare a balance sheet from the T accounts. After working with the problem for a short time, they soon discover that the fundamental equation will not balance. The class then concludes that there must be an error on the sheet. The students are next asked to locate the error. The inability of the students to locate the error finally leads into the discussion of the need for a preliminary record (*journal*) of the transactions before they are recorded in the accounts. This discussion develops the following points:

1 The need for a chronological record of business transactions to show the daily history of the business

2 The need for more complete information

3 The need for better means of locating errors

Other teaching suggestions The suggestions presented in the following paragraphs have been used successfully in the teaching of the journal

Use familiar transactions Illustrate the journal through the use of transactions taken from problems which the students have completed in the previous unit. When the journal is first being introduced, avoid transactions with which the students are not familiar.

Always refer to accounts Before demonstrating the recording of a transaction in the journal, the teacher should always analyze the transaction in terms of the T accounts and then show how to record the entry in the journal to bring about the necessary change in the accounts. Many teachers follow this procedure. The importance of the procedure cannot be overemphasized if students are to see that the journal is a means of bringing about changes in ledger accounts. The nature of the journal entry is always explained in terms of the change desired in the ledger. Therefore, each transaction must first be analyzed in terms of the ledger, then the journal entry should be recorded.

Use analysis chart To insure that each student analyzes each transaction before making the journal entry, some teachers use a chart similar to the one shown on page 126 or the more simplified one illustrated here. The chart is duplicated, and each student is

TRANS.	ASSETS		LIABILITY		PROPRIETORSHIP		ACCOUNT	
	INCREASE	DECREASE	DECREASE	INCREASE	DECREASE	INCREASE	DEBITED	CREDITED
1	✓					✓	Cash	Ret. Capital
2	✓	✓					Equipment	Cash

provided with a copy. The students are required to record each transaction on the chart before making the journal entry. The use of the chart of course would be discontinued when the teacher is certain that the students have developed the sequence of first analyzing the transaction in terms of the fundamental equation and the ledger account before recording the journal entry.

Stress correct procedure The correct sequence of recording in the journal needs to be stressed

- 1 Record the date
- 2 Record the debit account title and amount
- 3 Record the credit account title and amount
- 4 Record the necessary explanation

THE LEDGER

One important phase of teacher preparation is that of anticipating questions that will be asked by the students and having a reserve of illustrations and information ready to answer those questions. One question that is sure to arise regarding the ledger is "Now that we have a journal why must both the ledger and the journal be used? Why would not the use of only one of them suffice?"

The teacher answers this question by showing the students (1) that neither the journal nor the ledger by itself is sufficient and (2) the differences between the journal and the ledger.

Need for Ledger The need for the journal was shown when the journal was introduced. The students were asked to provide certain information from ledger accounts not contained in the accounts. Now that the journal has been developed, the reverse illustration may be used to show the need for the ledger. The teacher can have the class open their texts to a place where a full page journal is illustrated (a two page spread occurs early in most books). In the illustration will be included several entries recording transactions involving cash. The first entry probably records the opening entry and shows the amount of cash on hand at the beginning. The teacher would ask the class the amount of the cash balance after all the transactions on those two pages are recorded. This process necessitates that the students sort out all the debits involving cash, add them to the beginning balance, and then subtract the total of the cash credits from that figure. Thus, from this exercise the students will see that the ledger does something which the journal does not do, namely, it sorts and summarizes all the transactions related to one account.

The differences between the journal and the ledger can be identified as follows:

- 1 All transactions are recorded in the journal in chronological order, in the ledger, they are not so recorded
- 2 In the journal, the accounts debited and the accounts credited are shown together in the same entry, in the ledger, they are separated

ORIGINAL DOCUMENT

Purchase Invoice	
January 15 19	
Merchandise	1.00 00

JOURNAL

JOURNAL		Page	
No. 1	ACCOUNT TITLE AND EXPLANATION	DEBIT AMOUNT	CREDIT AMOUNT
1	Purchase	50	
	Accounts Payable		50
2	Purchase	21	
	Accounts Payable		21

LEDGER

Purchase				Accounts Payable			
DATE	EXPLANATION	DEBIT AMOUNT	CREDIT AMOUNT	DATE	EXPLANATION	DEBIT AMOUNT	CREDIT AMOUNT
1		50					50
2		21					21

A suggested bulletin board display chart or chalkboard illustration for use in teaching the journal and the ledger

- 3 The journal contains explanations, the ledger need not show explanations

- 4 In the journal, related debits and credits are not summarized, in the ledger, they are summarized

Account Forms The ledger account form varies from one business to another. The balanced ledger ruling is used extensively, and many teachers advocate that this form should be used throughout the bookkeeping course. Most textbooks, however, use the standard ledger ruling when the ledger is first introduced. The reason for this is that it minimizes the transition from the fundamental

equation to the balance sheet, to the T account and to the standard ledger account. The standard ledger ruling is in reality a ruled T account. The transition from the use of the T account to the standard ledger ruling account is far less complex than to the balanced ledger ruling.

Certainly, sometime during the bookkeeping course, students should be introduced to, and have experiences in using, a variety of different account forms. When the ledger is first introduced however, the student should not be confused by having to discern the similarities and differences between a variety of forms.

Posting Posting is a simple procedure but one that needs to be taught. Unless the importance of following the correct posting sequence is emphasized, students will naturally post from left to right, that is, they will first record the date, next the explanation and then the amount. This incorrect procedure may be avoided if the teacher will demonstrate each step in the procedure and explain why each step is taken in the usual order.² If students are asked to record the amount first when posting, they must understand the reason why it should be recorded first. The teacher also has a further responsibility to make certain that he also *always* follows the correct posting sequence in all board demonstrations.

Students may also be guided in avoiding certain posting pitfalls by having them pointed out and demonstrated, for example, the transposition of figures, posting to the wrong side of an account, omission of one or more postings, and duplicate postings.

The one phase of posting from the journal to the ledger so frequently misunderstood by beginning bookkeeping and accounting students is the proper handling of the posting references. (The term "posting reference" seems to have far more meaning than the terms 'ledger folio' and 'journal folio'.) Not infrequently, students are observed working entire problems involving journalizing, posting, and the preparation of the trial balance and after the trial

² In the transfer of data containing several items from one place to another error probability is decreased if the most important item is always recorded first. In each posting four items are transferred from the journal to the ledger: the date, the explanation, the posting reference, and the amount. Of these the amount is the most important. The poster notes these four items in the journal and then turns to the ledger. If he records the amount first there is less probability of his recording it in error than if he records the other three items and then the amount.

VISUAL AIDS

The following visual aids will be of much value to the teacher in teaching journalizing and posting

*Filmstrips*³ 1 Journalizing and Posting McGraw Hill Book Company Bookkeeping Filmstrip Series

2 The Bookkeeping Cycle Part 2 Recording Transactions in the Journal Posting to the Ledger and Preparing a Trial Balance Society for Visual Education Inc Bookkeeping Filmstrip Series

3 Journal—The First Lesson Business Education Visual Aids Bookkeeping Filmstrip Series

Wall Charts Bookkeeping Wall Chart No 2—Journalizing Posting and Preparing a Trial Balance George F Cram Company Inc

Chalkboard Headings Time can be saved by preparing chalk board headings for the two column journal and for the standard ledger form The headings can be prepared on cardboard and inserted at the top of the chalkboard when needed

Suggested Charts and Bulletin Board Displays The teaching of journals and ledgers offers excellent opportunities for a bulletin board exhibit that will enrich motivate and supplement class discussions and textbook illustrations An exhibit showing the relationship of the two column journal to other journal forms would be effective There are a great many variations of the journal Many businesses use the combined cash journal with from ten to twenty money columns This exhibit will serve to point out to the students that although many types of journals are used the process of analyzing a business transaction before journalizing it is identical in every case and that the principles of journalizing are also the same although the mechanics vary slightly in different cases The students are thus motivated to master the basic principles of journalizing from the very beginning because such mastery will enable them to apply those principles to a variety of situations

It should be remembered that some of the greatest values of bulletin boards are derived from the work done on them by the students themselves Certainly this is one bulletin board exhibit that

³ See Appendix H

balance is completed they tend to insert the posting references in the journal and the ledger. This practice is full admission that the purpose and significance of the posting references are not clearly understood.

CHART OF ACCOUNTS

The current practice in most bookkeeping textbooks is to use account numbers in place of page numbers to identify accounts in the ledger. The page number system is a carryover from the time when the bound book was the principal type of record. Today most records are kept in one of various loose leaf forms, and the page-number system cannot be used satisfactorily.

The page number system has always been confusing to the student as, in most cases, several accounts were placed on one page to save text pages and exercise materials. The teacher had the responsibility of saying 'we just imagine that each account takes a full page.' The account numbering system avoids this situation.

The account numbering system has the advantage in that the account may be classified by its numbers, that is, the number of the account readily shows whether the account is an asset, a liability, or a proprietorship account. If the numbering system is to aid students in classifying accounts then the same system should be used consistently throughout the course. To facilitate the use of account numbers, especially in the beginning course, it would be helpful to prepare a large chart like the one illustrated and keep it permanently posted in the classroom.

CHART OF ACCOUNTS

(Adapt chart to account numbering used in textbook)

<i>Accounts</i>	<i>Numbers</i>
Asset	1—19
Liability	20—29
Proprietorship	30—39
Income	40—49
Expense	50—60

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2 "The Bookkeeping Cycle, Part 2, Recording Transactions in the Journal, Posting to the Ledger, and Preparing a Trial Balance" Society for Visual Education, Inc. Bookkeeping Filmstrip Series

3 "Journal—The First Lesson" Business Education Visual Aids Bookkeeping Filmstrip Series

Wall Charts "Bookkeeping Wall Chart No. 2—Journalizing, Posting, and Preparing a Trial Balance" George F. Cram Company, Inc.

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It should be remembered that some of the greatest values of bulletin boards are derived from the work done on them by the students themselves. Certainly this is one bulletin board exhibit that

³ See Appendix H

can be prepared easily by the students. The class will bring in more different specimens of journals and ledgers than there will be bulletin board space to exhibit. The problem of those responsible for the exhibit will be that of choosing the specimens to be used and also that of analyzing the various specimens chosen and classifying them in similar groups before exhibiting them.

Other Charts and Displays Suggestions for additional visual aids are given below.

1 **Types of ledger accounts** Various account forms may be obtained from an office supply store and from businesses in the community. To permit class discussion, the opaque projector could be used to project these forms. The forms may then be organized into a bulletin board display for further study by the students.

2 **Correct journalizing procedure and correct posting procedure** Charts covering these procedures could be prepared and be permanently displayed in the classroom as a constant reminder to the students.

JOURNAL				Page 1	
DATE	ACCOUNT TITLE AND EXPLANATION	POST DEBIT	POST CREDIT	DEBIT ACCOUNT	CREDIT ACCOUNT
Sept 3	Equipment				
	Cash				
	Purchased box files				

3 **Pitfalls to avoid** A bulletin board display showing the pitfalls to avoid in posting.

PROBLEMS QUESTIONS AND PROJECTS

- 1 What is the meaning of the term double entry bookkeeping?
- 2 Visit two small business firms and obtain copies of the journal sheets they use. Combine these with the forms gathered by other class members for a tackboard exhibit.
- 3 Prepare journal and ledger sheet headings on cardboard for use at the top of the chalkboard.
- 4 Describe your favorite teaching procedure for showing students the need for and value of, posting references.
- 5 What is your opinion of the advisability of arranging a field trip to show your students how entries are made by posting machines?

6 Would it be desirable at this point to plan a field-trip demonstration on the use of card punch accounting machines? Give reasons for your answer

7 How would you reply to the following question asked by a student 'Why do we need to use both a journal and a ledger, isn't the same information recorded in both?'

8 Prepare a lesson plan for teaching one of the following

- a Recording the opening entries in a journal
- b Recording a series of typical transactions in a journal
- c Posting procedure

CASE PROBLEMS

1 Joan Swanson, a bookkeeping teacher, uses the journal approach to bookkeeping. She teaches the unit on journalizing first. By this approach the students learn how to journalize and to record business transactions in a book of original entry. Next they learn the form of an account and how to post and to use the ledger, then how to prepare a trial balance, and so on, to complete the steps in the cycle. Miss Swanson supports her approach with the following points:

- a It teaches bookkeeping in the same sequence as it is used
- b It avoids relearning. The journals, accounts, and procedures are consistent from the beginning
- c It is faster, as the student begins the use of the ledger within the first few days of the course, and the presentation of the entire bookkeeping cycle is speeded up

What do you think of this approach?

2 Mary, a student in a bookkeeping class, works in the accounting office of a local department store. Mary reported to her bookkeeping teacher that journals are not used in her office. Sales slips are posted directly to the customers' accounts and no entries are made in journals. She expects to work in the same office when she is graduated from high school and she does not see any reason why she should record entries first in journals and then post to accounts, as that is not the way she does it on the job. In fact, Mary more or less refuses to make any journal entries.

Mary's instructor told her that he does not care what she does on the job, but in the bookkeeping class journals will be used and, if she expects to pass the bookkeeping course, she is to do what she is told.

Do you think that the instructor has handled the situation correctly? How would you have handled it?

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CHAPTER 10

Teaching the Trial Balance

IN THIS CHAPTER A DETAILED discussion of teaching the trial balance is given as an illustration of how the lesson plan presented in Chapter 4 may be applied by the bookkeeping teacher

TARGETS—OBJECTIVES

The goals to be accomplished in the teaching of the unit on the trial balance are the following

- 1 Understanding of the purpose and significance of the trial balance
- 2 Learning how to prepare an accurate trial balance
 - a Safeguards for insuring that the trial balance will balance
 - b Procedures to be followed when the trial balance does not balance
 - c Analysis of the types of errors not revealed by the trial balance
- 3 Preparing and interpreting trial balances

TECHNIQUES—METHODS

The following sections contain a discussion of the techniques and methods that might be used in the achievement of the objectives just mentioned

Launching the Topic One way to introduce the trial balance

unit is to emphasize the need for proving the accuracy of postings that students have already completed. The teacher can point out the following facts:

1 The students have entered a series of transactions in a two column journal and have posted these entries to a ledger. Each entry was a double entry containing one or more debits and credits. The debit entries were posted to accounts in the ledger different from those to which the corresponding credit entries were posted.

2 If the debits and credits were equal in the journal and if these figures were all correctly transferred to the ledger, the total of the debit entries in the ledger would equal the total of the credit entries.

3 In bookkeeping there is a device for verifying the accuracy of the work in posting from the journal to the ledger. This device is known as a trial balance and means exactly what the two words imply—a preliminary or *trial* adding of all the figures in the ledger to see if the total of all debit entries equals the total of all credit entries.

4 It is advantageous to take a trial balance at frequent intervals. If errors have been made, they can be found more readily. If for example, five thousand journal entries were to be posted to one ledger—and all were posted correctly—the total of all the debit entries in the ledger would equal the total of all the credit entries in the ledger. If however, errors were made during the posting process the total debits might not equal the total of the credits. If all five thousand entries were posted before checking the accuracy, it might be necessary to check over the entire five thousand entries before finding the errors.

Another method that the teacher might use in introducing this unit is to show a journal page containing approximately a dozen entries and a ledger in which these journal entries have been posted. The teacher then points out that the equality of the debit and credit amounts entered on each page of the journal can be proved rather easily by footing the two money columns. Following this step, he shows that, in the ledger, the debit amount and the credit amount of any one entry are one or more pages apart. He would then raise the question as to how the equality of all the debits and all the credits entered in the entire ledger might be proved. In response

to this question, it is hoped that some student will suggest a procedure similar to that used in the journal—add all the credit amounts and all the debit amounts entered on each page and then add all these page totals together. From here it is just one step forward to suggesting that this *might be done for each account instead of for each page*.

Teaching Procedures The solution of an actual problem will do more to help students understand how a trial balance is prepared than an extended series of questions and answers. The teacher can have on the chalkboard the ledger for one of the problems the students have already completed, one which they have previously journalized and posted to the ledger. Thus, the students may work at their seats while the teacher works at the chalkboard. Another advantage of this plan is that the students will have a copy of the ledger from which the trial balance was taken and can use it for reference as they work additional problems.

Presenting Trial Balance of Totals The trial balance of totals which shows the total debits and the total credits for each account should be presented first.

	<i>Total Debits</i>	<i>Total Credits</i>
Cash	\$ 2 484 25	\$1 261 42
Accounts Receivable	6 006 40	2,107 84
Merchandise Inventory	8,200 00	
Equipment	10,310 42	3,177 05
(and so on)		

Introducing the trial balance of *totals* first has these advantages

1 It reduces the possibility of error. The subtraction required to determine the account balance is eliminated, thus avoiding the error possibility. Since both the total debits and the total credits are listed, the possibility of listing the account balance on the incorrect side in the trial balance is avoided.

2 It is consistent with the initial purpose of the trial balance. The trial balance is usually introduced as a means of determining if the total debits equal the total credits. The trial balance of totals does exactly this. It, therefore, seems more logical to the student than the trial balance of balances.

Using the T Account in the Trial Balance One device found to be helpful at first is that of showing a large T separating the trial balance debit totals from the credit totals. This builds directly upon knowledge with which the student is already familiar—the ledger T account. For example

Cash	\$ 6,500	\$ 2,000
Accounts Receivable	1 000	400
Equipment	4,000	
Accounts Payable	500	1,500
Oscar Paar, Capital		5,000
Sales	100	4,300
Rent Expense	700	
Miscellaneous Expense	400	
	<u>\$13,200</u>	<u>\$13,200</u>

After a few trial balances have been prepared the T may be abandoned.

Presenting Trial Balance of Balances The trial balance of balances, which lists for each account the difference between the total debits and the total credits—the balance of the account—should then be presented.

The trial balance has two functions, first, to prove the equality of the debits and credits and, second, to provide in a convenient form the data needed for preparing the work sheet, financial statements, and adjusting and closing entries. The trial balance of totals serves the first function. The trial balance of balances is needed for the second function. After a student has prepared several trial balances of totals, the transition to the trial balance of balances is relatively easy.

Correcting the Trial Balance One of the items listed in the goals to be accomplished is that of safeguards for insuring that the trial balance will balance. There are four steps in the preparation of the trial balance, namely

1. Totaling the debits and credits of each account
2. Finding the differences in these two amounts (account balance) and placing it on the appropriate side of the account (if a trial balance of balances is desired)

3. Copying the account titles and balances (or totals) in proper form

4. Adding the trial balance

If students will perform these operations as separate steps, completing one before beginning another, the practice will eliminate many mechanical errors which throw trial balances out of balance. When a student goes through the ledger adding the debits and credits, calculating the account balances, and writing the name and balance of each account on the trial balance—all as one operation—he is more likely to make arithmetical and placement errors than if he performs the operations as four separate steps. It is difficult, however, to "explain" this in such a way as to make believers of all students.



When Correcting Errors . . . DO NOT ERASE!!

Charts will help to remind students to avoid common mistakes and faulty procedures

All bookkeeping teachers have had the experience of observing students preparing a trial balance by merely listing two columns of figures as shown below.

Debit	Credit
293.43	408.00
82.90	678.43
13.56	416.43
3870.09	1,000.00
1,400.00	3,908.57
338.50	<hr/>
113.50	6,411.43
136.57	
29.88	
<hr/>	
6,272.43	

The same information, put in true trial balance form, results in the following arrangement

	<i>Debit</i>	<i>Credit</i>
Cash	\$ 293 43	
Notes Receivable		\$ 408 00
C T Adams	82 90	
R S Peters	13 56	
Merchandise Inventory	3,870 09	
Delivery Equipment	1,400 00	
J W Davis, Inc		678 43
Harold s Supply Co		416 43
Notes Payable		1,000 00
R M Randle, Capital		3,908 57
Sales	338 50	
Salary Expense	113 50	
Supplies Expense	130 57	
Miscellaneous Expense	29 88	
	<u>\$6,272 43</u>	<u>\$6,411 43</u>

The errors are now obvious. Notes Receivable is an asset account and should have a debit balance, Sales, an income account, should have a credit balance. Correct placement of these two figures will give a correct trial balance.

When the student comes to the teacher for assistance on a trial balance of the first type illustrated, the teacher should instruct him to 'put the trial balance in proper form, list account titles and balances on a sheet of journal paper, and then bring it back.' Teachers who have followed this procedure have found that many students do not return to ask for help. In checking at the student's desk, they found that the process of putting the trial balance in its proper form had focused the student's attention on his errors. His trial balance was in balance and he needed no assistance.

Locating Errors When the Trial Balance Is Out of Balance
Another item listed under goals to be accomplished is the procedure to be followed when the trial balance does not balance. Certain procedures will aid the student in locating his errors. These procedures should be demonstrated for the student by means of several illustrations of each. (This would not be done the first time that the procedure of taking a trial balance was presented to the

class but at a subsequent class period, after the students have had an opportunity to prepare several trial balances for themselves) These ideas should preferably be presented in the order that one would normally follow in trying to correct his trial balance An outline which might be used in part or in its entirety is presented here

Throughout the outline the amount by which the trial balance is out of balance will be referred to as the 'error amount ' In teaching the finding and correcting of errors, the teacher would do well to begin by assuming that only one error has been made After the different types of errors have been considered in this way, problems involving two or more errors may be considered

1 Re-add the trial balance If an adding machine is used, check the figures on the tape against those on the trial balance

2 Determine exactly by how much the trial balance is out of balance Look for an entry of this amount that may not have been posted

3 Divide the error amount by two Look for an entry of this amount that may have been posted as a debit when it should have been posted as a credit, or vice versa

4 Apply certain tests of arithmetical accuracy

a If the error amount is 1¢, 10¢, \$1 \$10, or \$100, or some other round number, an error in addition or subtraction may have occurred

b If the error amount is divisible by 9, the error could be the result of one of three causes

(1) Two errors in addition or subtraction (as described in point a) operating against each other When this occurs the error amount will be 9, 90, 900 999, 909

(2) The sliding of all digits one column to the right or to the left—\$2 706 50 written as \$27 065 00 or \$270 65

(3) Transposition of figures—\$64 written as \$46 or \$38 47 written as \$83 47, \$34 87 or \$38 74

c If the error amount is divisible by 99, a double slide might have been the cause that is a shift of two columns to the right or left—\$36 00 written as \$3 600 00 or as 36¢

5 Examine the trial balance for reasonableness

a Check to see if the Purchases account balance and the Sales account balance appear reasonable in terms of the inventories and in terms of each other

- b A customer's account with a credit balance might be the result of an overpayment but most likely this situation would indicate that an error has been made

LOCATING TRIAL BALANCE ERRORS

Instructions Complete each step in the order presented until the error has been located. As each step is completed place a check mark (✓) in the space provided

Step	Check Here
1 Re add both trial balance columns	_____
2 Compare the balance in each ledger account against the balance shown on the trial balance	_____
3 Verify the balance in each ledger account by a re-adding the debits and credits b checking the subtraction to determine the account balance	_____
4 Determine the difference between the two totals of the trial balance a Search through all the ledger accounts and journals for an entry of the different amount b If the difference is 1¢, 10¢, \$1, \$10 \$100, \$1 000 carefully recheck all additions and subtractions	_____
5 Divide the trial balance difference by two. Search the ledger accounts and journals for an entry of that amount	_____
6 Divide the trial balance difference by 9. If divisible by 9 look for a transposed figure	_____
7 Check all the postings back to the journal	_____

A form similar to this one may be duplicated and distributed to the students for use as a guide sheet in locating errors on a trial balance. This form can be expanded to include all the steps as explained in this chapter or as many as the instructor wishes to emphasize.

6 Skim through the ledger rapidly, checking to see if any accounts not in balance have been omitted from the trial balance. Check the balances shown on the trial balance against those shown in the ledger, both as to amount and whether or not it is a debit or a credit balance.

7 Check the calculation of the account balances in the ledger.

8 Check the posting.

- a Some prefer to check from the ledger to the journal account rather than from the journal to the ledger account.
- b Make sure that the totals of the special journals have been posted. When subsidiary ledgers are used, check to see that the total of sales and purchases journals are posted to the control account as well as to the Purchases and Sales accounts.
- c If control accounts and a two column general journal are used, make sure that the amounts are double posted—that is, to both the general ledger and the subsidiary ledger.
- d Place a check mark by each figure in the ledger and the corresponding figure in the journal. When all posting is checked, there should be a check mark by every entry in the journals and in the ledger.
- e Watch carefully to see that debit journal entries are posted as debits in the ledger and that credit entries are posted as credits.

"Backposting" Sometimes the usual techniques do not reveal the error that prevents the trial balance from balancing. The ledger accounts may have been checked, postings verified, columns of figures added and re added—yet the error has not been found. Apparently the error must be in one of the several journals, but which one?

A device used in business that has proved helpful in pinpointing the error to a specific journal is known as "backposting"—that is, posting from the individual ledger accounts to a multiple-column work sheet in the following manner:

1 Use two columns for each of the journals from which entries have been posted. Subhead one column "Debit", the other "Credit" (See illustration on page 156.)

2 Take each account in the ledger separately and, using the posting reference as a guide, post each debit entry in that account to its respective journal column as a debit. Do likewise for each credit

- The debit of \$75 is posted to the General Journal Debit column on the work sheet, \$10 to the Cash Payments Debit column
- The credit of \$4,500 is posted to the Sales Journal Credit column on the work sheet, \$325 to the General Journal Credit column
- The debit of \$3,600 is posted to the Purchases Debit column on the work sheet, \$425 to the General Journal Debit column
- The credit of \$100 is posted to the General Journal Credit column on the work sheet, \$25 to the Cash Receipts Credit column

After all the entries in the ledger have been checked and entered on the work sheet, the figures in each column are totaled. If the totals of both columns for any journal are not equal, this is proof that an error was made in that journal or in posting from it.

The reason that this procedure results in the location of the error is that for any one journal the sum of all the debit entries equals the sum of all the credit entries. Therefore, the total debits in the ledger that were posted from any particular journal must equal the total credits in the ledger that came from that journal. Thus, when the entries in the ledger have been re entered on the work sheet in their appropriate columns, the totals under each journal must be in balance if all transactions in the journals were recorded correctly.

Once locating the journal from which the posting error resulted, one can recheck carefully the posting of all entries in that journal and locate the specific error.

One good way to present these procedures for finding errors in trial balances is to place on the chalkboard student solutions of

problems that represent unbalanced trial balances. By working together, the teacher and the students can apply the testing devices described until the errors are located. Since these mistakes occur in actual student solutions, they are more meaningful to class members than possible errors devised by the teacher.

Errors Not Shown by Trial Balance Students need to recognize that, even though the trial balance is in balance, this fact is no assurance that the books are accurate. The trial balance merely indicates that the ledger accounts balance. The following kinds of errors will not show up on the trial balance.

- 1 Journal entries that are
 - a incorrect as to the account debited or the account credited
 - b correct but are posted to the *correct* side of the *wrong* account
 - c incorrect as to amount in both debit and credit figures
 - d not posted
- 2 Transactions that are omitted completely from the journal
- 3 Transactions that are journalized more than once
- 4 Two errors for the same amount that offset each other

The uses of illustrations and of test problems provide two excellent means of assurance that students understand the types of errors that the trial balance will and will not reveal. For example, the teacher might place on the chalkboard the T accounts representing a ledger and a copy of the *trial balance* prepared from that ledger. By referring to some of the original entries and posting them incorrectly, he can illustrate that the ledger may be in error, yet the trial balance is in balance. Thus, a journal entry charging a customer for an amount might be posted to the debit side of some other customer's account. By erasing the correct entry from one account and posting this incorrectly as suggested, the teacher can show that the ledger still balances. He may even give a greatly exaggerated example by posting a journal entry debiting Sales to the debit side of Purchases, and then later posting it to the debit side of Salary Expense. In each case the teacher may trace the effect of the posting error through to the trial balance, showing that it still balances because each time the debit was posted as a debit. Then the teacher may post a debit entry to the credit side of the correct account and show that this throws the *trial balance* out of balance.

by an amount equal to twice the amount of the entry. Unless the teacher uses such illustrations and demonstrations, the students may not clearly understand what a trial balance proves and what it does not prove.

Test problems similar to the illustrations used during class discussion may be given to determine whether or not additional illustrations are necessary. The following question was included on a short weekly quiz given to one hundred college freshmen studying accounting.

If a note for \$300 received from a customer to apply on account were posted to the debit side of the Notes Payable account instead of the Notes Receivable account by how much would this cause the trial balance to be out of balance?

Fifty four out of the one hundred students who answered this question missed it. Most of them said that it would be out of balance by \$300. This answer indicated that the teacher had not driven home by using sufficient illustrations the basic principle of the trial balance.

Determining Missing Balance There is another type of illustrative problem that will help to drive home the lesson of the trial balance. Supply the student with the balances of all accounts except one. Do not indicate whether the accounts have debit balances or credit balances. Ask the student for the balance of the one account whose balance is not given. For example:

Cash	\$ 293 43
Notes Receivable	408 00
C. T. Adams	82 90
R. S. Peters	13 56
Merchandise Inventory	3,870 09
Delivery Equipment	1,400 00
J. W. Davis, Inc.	678 43
Harold's Supply Co.	416 43
Notes Payable	
R. M. Randle, Capital	3,908 57
Sales	338 50
Salary Expense	113 50
Supplies Expense	130 57
Miscellaneous Expenses	29 88

The problem here is to determine which accounts have debit balances and which have credit balances. If no error is made, the difference between these two totals is the amount of the account whose balance is not supplied—in this case, Notes Payable.

The Addition Problem The trial balance presents a difficult addition problem for many students. A very high percentage of causes of out of-balance trial balances may be traced to addition errors.

Adding machines When students are required to add mentally long columns of figures typical of the trial balance, they are being expected to add correctly at a level far above that required by business. The suggestion was made in a previous section of this book that a sufficient number of adding machines should be available in every bookkeeping room to enable students to perform long additions by machine, just as it would be done in business. Bookkeeping teachers have been entirely too reticent in requesting adding machines. To teach bookkeeping without adding machines is as unrealistic as is teaching duplicating without duplicating machines or sewing without sewing machines. At no other point in the bookkeeping course is the need for the adding machine more evident than in the unit on the trial balance.

If adding machines are available, the equality of debits and credits in the ledger can be checked readily by entering account balances directly from the ledger on the adding machine tape. The debit balance in an account is entered on the keyboard and the amount is shown on the tape as in regular addition. All credit balances in accounts are entered on the keyboard and the subtraction key is used to register a deduction. When the work is completed the net balance in the machine and that printed on the tape as the final total should be zero. If the final answer is zero, the ledger is in balance, if it is not zero, an error has been made and the tape can be used for reference as one checks back through the ledger to locate the difficulty. The balances of all accounts in the ledger are listed on the adding machine tape in the order in which the accounts appear in the ledger. This method is particularly useful in business when a formal trial balance is not required—when the bookkeeper merely wants to check the accuracy of his posting by proving that his ledger is in balance.

Addition aids When adding machines are not available, techniques for decreasing the difficulty of addition of long columns should be explained. Two techniques are here illustrated.

<i>Subtotal Method</i>	<i>Angular Method</i>
425 80	378 24
1,246 25	1,246 05
374 90	787 15
76 25	9,216 45
10 246 20	38 75
9 824 36	214 27
64 27	18 26
185 74	<u>37</u>
20,320 57	1 8
<u>22 443 77</u>	47
	25
	1 6
	10
	<u>11,899 17</u>

Students As Addition Checkers Every bookkeeping class is fortunate in having a few students who can add rapidly and accurately. If adding machines are not available for class use, these addition gifted students can be effectively used as addition checkers—human adding machines. Under this plan, students are encouraged to have their trial balance addition checked by an addition checker. The student checker, of course, should be used not to add the column for the student but merely to verify the accuracy of the student's addition.

Addition skill is improved only through well planned remedial drills. Time spent by a student in struggling with an addition for which he is inadequately prepared had better be spent in remedial drill.

TOOLS—MATERIALS

A brief discussion of suggested materials follows.

The Textbook The textbook is the common body of knowledge that all students have. It also serves as the chief source of reference for the student. Therefore, use of the text and its illustra-

tions must be carefully planned. The problem worked on the board by the teacher when first presenting the trial balance to students may be the example worked in the text. If a different problem is used, the teacher should direct attention and discussion to the illustrative problem in the text and show that the procedures as explained in the text are the same as those used in the illustrative problem worked on the board. The illustrations in the text may serve as a guide to the proper trial balance form that students should follow when they work the problems assigned. In all probability the text will be the source of the problems that make up the common assignment to be completed by all students.

Visual Materials In addition to the illustrative materials placed on the chalkboard by the teacher and the illustrations in the textbook, the following visual aids may be used in presenting the trial balance unit.

1 *Chalkboard drawing* Draw on the chalkboard a simple set of balances or scales similar to those used in the science laboratory. The accounts with debit balances may be shown on the left side and those with credit balances on the right side.



—THE TRIAL BALANCE BALANCES.

2 *Filmstrips*¹ Either of two filmstrips might be used with this unit. "Preparing the Trial Balance," McGraw-Hill Book Company Bookkeeping Filmstrip Series. "The Bookkeeping Cycle—Part 2: Recording Additional Journal Entries, Posting to the Ledger, and Preparing the Trial Balance," Society for Visual Education Bookkeeping Filmstrip Series.

3 *Wall chart* "The Bookkeeping Wall Chart No. 2—Journalizing, Posting, and Preparing a Trial Balance," George G. Cram Company, Inc.

¹ See Appendix H

Supplementing the Textbook One or two problems in preparing a trial balance are not sufficient to give adequate drill or practice. If the textbook does not provide several problems requiring the preparation of the trial balance and the location of errors in a trial balance, supplementary problems should be prepared, duplicated and distributed to the students. Problems of different levels should be provided. Some problems should be relatively simple and within the achievement of all students. Other problems should contain several errors and challenge the best students.

TESTING—EVALUATION

Suggestions for testing and evaluation of work are discussed in the following paragraphs.

Student Evaluates His Own Work Every time a student takes a trial balance, he is evaluating his own work. The trial balance is a sort of preliminary check on the accuracy of the student's work. The test here is whether or not the trial balances each student prepares are in balance.

Teacher Evaluates Student's Work The fact that a student can journalize an assignment, post the entries to the ledger, and prepare a trial balance that is in balance is proof that he probably understands how the work is done and demonstrates that he has mastered the techniques involved in performing this bookkeeping operation.

A second test of a student's work is his ability to apply the rules and procedures outlined for finding the errors in his work when a trial balance does not balance. The student who can find the causes of trouble in his own solutions and correct them so that his trial balance will balance demonstrates a mastery of this part of the lesson. Both of these tests can be met satisfactorily by the students as they work their daily assignments throughout the course.

In the section dealing with teaching procedures, two different suggestions were offered that help to teach and test for an understanding of the trial balance. A good test problem is that of giving the students a list of accounts from the ledger, together with their balances but not indicating whether the account has a debit or a credit balance, and asking them to put the data in the form of a trial balance. It would probably be desirable to mix the order of ac-

counts rather than have them in their proper place as far as order is concerned

Demathematize the Trial Balance When Testing A common bookkeeping test is that of providing a list of accounts, similar to the following, with instructions to prepare the trial balance on a work sheet form, to make the adjustments, to complete the work sheet, and to prepare financial statements

Cash, \$12,478 95, Accounts Receivable, \$27,807 70, Notes Payable, \$5,650, Salary Expense, \$11,247 24, Purchases \$19,475 19, (and so on giving other accounts with their amounts)

In taking this test, the student may correctly classify the account and determine whether it has a debit or a credit balance, but, because of an addition error and the time consumed in locating it, he may fail to complete the test. The test grade, therefore, may present an inaccurate measure of the student's bookkeeping knowledge.

The test can be demathematized to a considerable extent by using only round numbers for account balances, such as,

Cash, \$10,000, Accounts Receivable, \$25,000, Notes Payable, \$5,000, Salary Expense, \$12,000, Purchases, \$20,000, and so on

To facilitate the student's locating errors, the same amount should not be used for two accounts.

Some instructors eliminate amounts entirely by having students place a check mark in the appropriate column instead of an account balance. The objection to this practice is that it deprives the student of a valuable accuracy proof. The balancing of the totals of the trial balance and other parts of the work sheet gives the student a proof of accuracy not provided through check marks. A student may inadvertently place a check mark in the wrong column and have no way of detecting this error.

Test Basic Understandings Basic understandings as opposed to rote memorization may be easily tested by use of test questions similar to the following

Indicate the effect on the trial balance of each error

1 A note for \$500 received from a customer to apply on account was posted to the credit side of the Notes Payable account

2 A check for \$100 for payment of rent was posted to the credit side of the Rent Expense account

3 The debit balance in the Purchases account was incorrectly calculated to be \$15 000 instead of \$14,000

Teacher Tests His Teaching The quality of performance of the students is a pretty good criterion of the thoroughness of the teaching that has been done. Student performance on a problem that asks for the effects on the ledger of different types of errors made when posting is an indication of how well the teacher has put across his classroom presentations. Naturally the teacher will want to test both the students' knowledge of the principle and the thoroughness of his teaching after the class has been given ample opportunity to work several assignments applying the principles learned to actual problem situations.

PROBLEMS, QUESTIONS AND PROJECTS

1 What item do you think is of greatest importance in the teaching of trial balance preparation?

2 In the teaching of the trial balance, which instruction should come first—understanding of the trial balance and its function or emphasis of the proper form to follow in the preparing of trial balances?

3 When should the teacher discuss with the students the processes to use when a trial balance does not balance? (a) the first day that the topic of trial balances is presented, (b) a day or two later, or (c) several days later, after the students have actually worked a few trial balances?

4 Should a teacher explain the totaling and balancing of accounts before or after he explains the trial balance itself?

5 Find the amount of the Notes Payable account using the trial balance data on page 158, and arrange the data in proper trial balance form.

6 If a cash purchase for \$275 were entered correctly in the cash payments journal, but posted to the debit of the Purchases account as \$257, by how much would the trial balance be out of balance? What type of error is this? If this were the only error made, what test would give a clue that this type of error had been made?

7 On page 159 is explained how the equality of the account balances in the ledger may be proved on an adding machine without the preparing of a formal trial balance. Would you recommend teaching this technique to high school students? Why or why not?

8 Ask your bookkeeping students to preserve for three weeks all trial balances that do not balance the first time they are added. Have them write down exactly what errors they find as they check the trial balances to bring them in balance. Classify these errors into the following categories:

- a Inequality of debits and credits in original journal
- b Incorrect journal entry
- c Error in posting wrong amount
- d Errors in posting to incorrect side of the proper account
- e Error in arithmetic in calculating account balances
- f Account balance copied incorrectly on trial balance (either wrong amount used or amount placed in the incorrect column)
- g Incorrect adding of trial balance

Determine the percentage of the total errors represented by each type of error.

CASE PROBLEM

The author of a bookkeeping textbook received the following inquiry from a teacher:

'This is my first year of teaching bookkeeping. The class appears to have progressed very well, but I have come up against one problem on which I need your help. In spite of everything I do, I find that many of my students copy from one another. We have just completed the unit on the trial balance. In class we discussed the purposes of the trial balance and spent two days in discussing and illustrating the procedure to be followed in locating errors on a trial balance. I find, however, that my students take the easy way out—compare their trial balance figures to locate errors. I have threatened the students with failure for copying, changed figures so as to make it difficult to compare answers, and have discussed the ethics involved, but my efforts have been to no avail. What can I do?'

Assume that you are the textbook author. What advice would you give this teacher?

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CHAPTER 11

Teaching the Work Sheet

THE WORK SHEET IS A device to be used in the preparation of the financial reports. For this reason some teachers prefer to present the work sheet after the students have studied the financial statements. These teachers reason that if students know what a balance sheet is and what a profit and loss statement is, and if they know the types of accounts that appear on each, they can see more readily why they are sorting all the accounts on the trial balance into four different groups by using the work sheet. Most teachers, however, present the work sheet before they do the unit on financial statements, thus presenting the units in the same sequence as the steps in the bookkeeping cycle. From the beginning of the course, students have been classifying accounts, have prepared balance sheets, and have established and used income, cost, and expense accounts; therefore, they have had the necessary background for an understanding of the function of the work sheet.

FUNCTION OF THE WORK SHEET

The work sheet has two primary purposes: first, sorting of accounts into the principal account classifications for the financial reports, and, secondly, making of adjustments to trial balance accounts before the statements are prepared. The work sheet probably makes its greatest contribution in fulfilling this second function.

In addition to its two primary purposes, the work sheet has other functions. It brings all the end of period calculations together on one sheet of paper for the convenience of the bookkeeper or the accountant. It is a convenient method of proving the accuracy of all calculations with a minimum of work and writing. In no other place is there to be found a picture of the effect of the adjusting entries on the balance sheet accounts. The work sheet is the basis for the adjusting and closing entries in the journal as well as for financial reports.

Many students do not understand the various functions of the work sheet. All these functions cannot be presented at one time. Therefore, when the work sheet is being explained to the class for the first time, it should be presented as a sorting device only.

PRESENTING THE WORK SHEET

The first work sheet to be introduced is generally the six-column work sheet as it is principally an account classification device and is the easiest for students to understand. The following suggestions will speed up the presentation of the work sheet and help students to understand its function.

1 Before class period have a work sheet form placed on the chalkboard either in semipermanent or permanent ruling and with a trial balance filled in.

2 Review classification of accounts

- a Point out that all accounts on the work sheet may be classified as either permanent accounts or temporary accounts.
- b The fundamental equation contains only permanent accounts. The temporary accounts are subdivisions of the proprietorship account and are shown as follows:

$$\begin{array}{rcccl}
 \text{Assets} & = & \text{Liabilities} & + & \text{Proprietorship} \\
 \hline
 | & & | & & | \\
 & & & & \text{Cost and} \\
 & & & & \text{Expenses} \quad \text{Income} \\
 & & & & \hline
 & & & & | \qquad |
 \end{array}$$

- c The balance of any account is found on the plus side of that account

$$\begin{array}{rcccl}
 \text{Assets} & = & \text{Liabilities} & + & \text{Proprietorship} \\
 \hline
 + \quad | \quad - & & - \quad | \quad + & & - \quad | \quad + \\
 & & & & \text{Cost and} \\
 & & & & \text{Expenses} \quad \quad \text{Income} \\
 & & & & \hline
 + \quad | \quad - & & - \quad | \quad +
 \end{array}$$

- d Any account with a debit balance is either an asset, a cost, or an expense account. Likewise, any account with a credit balance is either a liability, a proprietorship, or an income account. Point out to the students that, in classifying the accounts on the work sheet, they are not having to select from four columns, but in reality only from two columns.

- 3 For the first work sheets use the following column headings

ACCOUNT TITLE	Acct No	(Temporary)				(Permanent)	
		TRIAL BALANCE		P & L STATEMENT		BALANCE SHEET	
		Dr	Cr	COST & EXPENSE Dr	INCOME Cr	ASSETS Dr	LIAB & PROP Cr

The use of the words 'temporary' and 'permanent' and the identification of columns with both the account classification and 'debit' and 'credit' will help the student in his initial classification. After several work sheets have been prepared, the words 'Temporary,' 'Permanent,' 'Debit,' and 'Credit' may be eliminated.

- 4 When first introducing the work sheet, use round numbers in the trial balance so as to eliminate the arithmetic problem and to permit full concentration on the work sheet procedure. Realistic numbers should be used just as soon as the teacher feels confident that the students understand the work sheet.

- 5 Have the students complete the work sheet at their seats at the same time that the teacher is completing it on the chalkboard. To save class time, it is advisable to duplicate for distribution to the

class work sheet forms with the trial balance filled in. This would be the same trial balance as that shown on the chalkboard.

6 Encourage the students to complete their work sheets in pencil. The work sheet is exactly what its name implies, a working sheet or a working trial balance. It is a preliminary calculation prior to the actual preparation of the financial reports. Not only permit but also encourage students to use a pencil instead of a pen in the preparation of the work sheet. This practice will help students to understand the basic function of the work sheet.

7 Give detailed instructions on the correct ruling of the work sheet. Have students rule a work sheet at their seats while the one on the board is being ruled.

EIGHT AND TEN-COLUMN WORK SHEETS

The work sheet involves not only the idea of sorting accounts according to their classification but also that of adjusting all accounts that are not up to date. This includes the inventories, adjusting of mixed accounts, and the recording of accrued and deferred items. Since adjusting entries when first introduced are usually limited to one or two items, the eight column work sheet is usually used. The ten-column work sheet is needed only when there are many adjustments. The ten column work sheet may not even be introduced in the first year high school bookkeeping course. However, it is usually used in second year high school bookkeeping and in college accounting.

Here are several teaching suggestions that may help students in developing eight- and ten column work sheets.

1 Explain to students the importance of keying their adjusting entries and the advantages of using letters in place of numbers for this purpose.

2 Emphasize the importance of having all money columns headed fully and correctly.

3 When the ten-column work sheet is being used, emphasize the following points:

a The importance of not extending any item in the trial balance to the balance sheet or profit and loss columns until the accuracy of the adjusted trial balance has been proved.

b The danger of skipping over items in the adjusted trial

balance Each item should be extended in order to its proper column

c That each item appearing in the adjusted trial balance will appear *once and only once* in one of the four columns to the right of the adjusted trial balance

When adjustments on the work sheet necessitate the opening of new asset and liability accounts, the teacher may suggest to the students that they leave space between the liability and income sections of the trial balance to insert these new accounts New expense accounts may be opened at the bottom of the work sheet

If the trial balance is a long one requiring the use of more than one sheet of work sheet paper, the teacher may recommend that the students skip to the second sheet when they come to the income accounts This leaves space on the first sheet for the new balance sheet accounts The two sheets may be fastened together with tape for the work sheet solution

Before giving a test on the work sheet, it is recommended that the teacher run off mimeographed copies of the work sheet on which is entered the trial balance from which the work sheet is to be prepared, and distribute these to the class on the test day This plan saves students' time since they do not have to copy the trial balance before starting the solution of the problem The use of numbers in place of check marks is also recommended for work sheet tests Numbers are essential aids to students in completing the work sheet For example, if the net profit figure for balancing both the Profit and Loss Statement columns and the Balance Sheet columns is not the same, an error obviously exists The use of round numbers is also recommended so that students will not get bogged down with the arithmetic and fail to complete the work sheet because of an addition error in the trial balance, in adjustments or in other parts of the work sheet When the students are so bogged down the test may not evaluate understanding of the work sheet

Relationship of Work Sheet to Closing Entries It should be understood that the principle of closing entries would be taught during the time interval between the use of the six column work sheet and that of the eight column work sheet

The six column work sheet is taught and soon thereafter the students would learn how to make closing entries The presentation

of the eight or ten column work sheet would be postponed until various adjustments are presented. These adjustments are discussed later in Chapters 15, 16, and 17.

WORK SHEET VISUAL AIDS

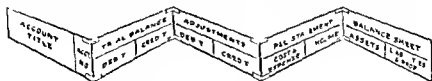
A number of visual aids helpful in the teaching of the work sheet are suggested below.

*Filmstrips*¹ 1. Preparation of Work Sheet and Financial Statements. McGraw Hill Book Company Bookkeeping Filmstrip Series.

2. "The Bookkeeping Cycle—Part 3—Work at the Close of the Fiscal Period." Society for Visual Education, Inc., Bookkeeping Filmstrip Series.

Commercially Prepared Charts 'Bookkeeping Wall Chart No. 3—Work Sheet and Financial Statements. George F. Cram Company, Inc.

Chalkboard Headings The work sheet column headings and rulings may be prepared on heavy cardboard or on hard board which has been painted white. When a work sheet is to be used, the prepared headings may be mounted at the top of the chalkboard with tape, with clips (storm window clips permanently mounted at top of board) or by magnets if the board is magnetized. The headings may be cut or folded for easy storing as shown in the illustration.



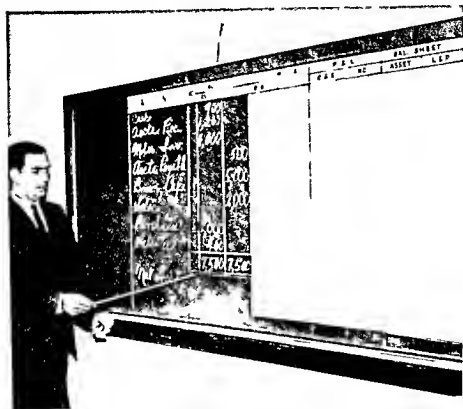
Permanent Folded Work Sheet Headings

Prepared work sheet column headings offer these advantages: (a) They save time in that the headings need not be written each time a work sheet is to be prepared on the chalkboard. (b) They may be prepared carefully with drawing pens or a brush, thus giving

¹ See Appendix II.

a neater appearance and more visibility than chalk headings (c) They provide guides for uniform ruling of columns on the board thus producing a neater work sheet form

Masking of Board In reviewing the work sheet the teacher may wish to save time by having the entire work sheet including



Only trial balance section of the work sheet is shown sheets of paper cover the rest of the work sheet

all account titles and figures placed on the chalkboard before the class period. By using wrapping paper or cloth all parts of the work sheet except the trial balance are masked over. This directs the class attention to the trial balance. After the trial balance has been reviewed the masking paper is removed from the adjustment columns and the adjustments are discussed. Likewise the mask is removed from the statement columns when these columns are dis-

cussed. This procedure focuses the attention of all class members on the specific section of the work sheet being discussed and avoids delay in filling in the work sheet during the class period.

A variation of this same idea is to have the work sheet painted on hard board or cardboard with all account titles and figures filled



The paper has been removed from the Adjustments section so that the class may concentrate on this section while the teacher discusses adjustments.

The board is then sawed into three sections (1) account titles and trial balance, (2) adjustment columns, and (3) four statement columns. In the review of the work sheet, each section would be brought out and placed in sequential order as presented.

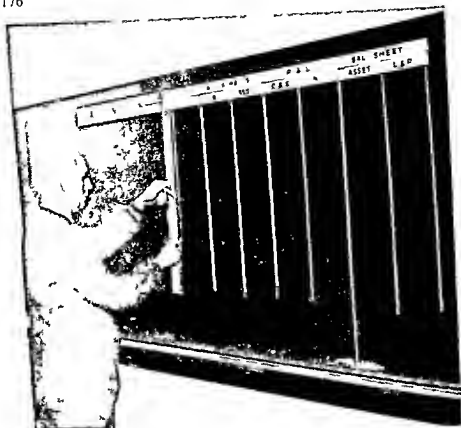
Use of Colored Chalk. When the work sheet is first introduced, some teachers place the trial balance on the chalkboard, using one color of chalk for asset accounts, another for liability

and proprietorship accounts, a third for income accounts and a fourth for expense accounts. Thus, when the items in the trial balance are transferred to the classification columns the color helps guide the student to the correct column. This procedure would not be used after the initial presentation of the work sheet.

BAL SHEET				BAL SHEET			
ASSET		LIAB		ASSET		LIAB	
900	1,000	3,000	4,000				
5,000	500						
	5,000						
	2,000						
1,000	3,000	3,000	2,000				
400			400				
7,500	7,500	7,000	2,400	2,000	5,100	5,500	
			2,400	1100	400		
			2,400	5,500	5,500		

The complete work sheet is not visible so that the Profit and Loss and Balance Sheet sections may be discussed.

Semipermanent and Permanent Board Rulings Since the work sheet form is used repeatedly throughout the bookkeeping course, time can be saved if it can be permanently or semipermanently ruled on a section of the chalkboard. (See page 82 for a description of how to make such rulings.) Thus by a change in headings the same form may be used as a two, three, four or eight column journal or as a balanced ledger account ruling form.



Chalkboard Heading Work sheet and journal column headings may be permanently prepared on cardboard and quickly placed at the top of the chalkboard when needed They are time saving neat and readable Note that the special ruler is being held with one hand while the other hand is free to make the ruling

PROBLEMS QUESTIONS AND PROJECTS

- 1 What are the purposes and functions of the work sheet? Could students get along successfully without using a work sheet?
- 2 Do you favor teaching the work sheet before you teach the financial statements or after? Why? What are the advantages of each method?
- 3 The statement has been made that encouraging students to use pencil instead of pen in work sheet preparation helps to get over to them the basic functions of the work sheet Explain how the use of the pencil helps to develop understanding of the basic functions of the work sheet

4 Examine three high school elementary bookkeeping textbooks and prepare a chart showing when each text first introduces the six column, the eight-column, and the ten column work sheet

5 Prepare a test covering the six column work sheet that would be used at the end of the work-sheet unit in a high school first year bookkeeping course. Attach to your test a list of the specific features of the test and points you considered in preparing the test

6 One method of introducing the work sheet that has been used successfully is to show the class examples of work sheets of the non bookkeeping variety such as the teacher's roll book, a score sheet for a baseball or basketball game, a builder's blueprint, a dress pattern or an outline for a theme or speech. Name eight additional examples of non bookkeeping work sheets with which students may be familiar

7 Prepare on cardboard headings for an eight column work sheet for mounting at the top of the chalkboard. Be prepared to demonstrate its use to the class

CASE PROBLEMS

1 The chief function of the six column work sheet is that of sorting accounts into their respective classifications. One teacher has used a plain sheet of paper divided into four sections as a simple work sheet as shown here

Assets	Income
Liab. and Prop.	Cost and Expense

Accounts and their balances are taken from the trial balance and placed in the appropriate section on this sheet. What do you think of using such a form before presenting the formal work sheet in columnar form? What do you see as its values and weaknesses?

2 Robert Anderson, an experienced bookkeeping teacher, prepares his students for the work sheet in the following way

He classifies the accounts on the trial balance and writes a letter in front of each account to show what kind of account it is (A, L, P, I, C, E). After each account is so classified, each amount is extended to the proper column on the work sheet. What do you think of this procedure?

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CHAPTER 12

Teaching the Financial Statements

THE CLASS MEMBERS have now learned to analyze transactions journalize, post, and prepare a trial balance and a work sheet. They have also briefly studied the balance sheet as the basis for the opening entry for a business enterprise.

The students have reached the point where they are ready to prepare formal financial statements for a business enterprise—the balance sheet and the profit and loss statement.

Some teachers prefer to teach the balance sheet first and to follow with the profit and loss statement. Others like to present the profit and loss statement first. The fact that the class members are already somewhat familiar with the balance sheet seems to make its presentation first a logical one. However, since the net profit ascertained by the profit and loss statement is used on the balance sheet, it is equally logical that the profit and loss statement should be prepared first. The order to be used is one of personal preference.

PRESENTING THE BALANCE SHEET

When planning teaching procedures, the teacher should always keep in mind the purposes to be accomplished in the lesson. The following objectives might be used for the unit on preparation of the balance sheet:

1. To build upon what the students know about balance sheets from their early lessons in the course.

- 2 To explain how to prepare the account form of balance sheet—types of accounts appearing on the balance sheet, the arrangement of those accounts and the proper form and rulings to be used
- 3 To show that a balance sheet balances when the proprietorship account is brought up to date
- 4 To teach the importance of properly heading the balance sheet

Preparing for the Lesson A simple account form of balance sheet should be placed on the chalkboard before the class session begins. In addition, the proper form for a new balance sheet that will be prepared during the class period should be ruled on the board. Each student should have his solution of a certain problem that has been completed through the work sheet, and this work sheet should also be on the chalkboard. The students should have at hand paper on which they can make an account form of balance sheet as the teacher works his solution on the board.

Introducing the Lesson The teacher might begin by relating an incident similar to the following:

Mr. James Brown, a friend of my family, is considering buying a small cleaning establishment for his son. The present owner, who also owns a dairy, now wishes to give all his time to the dairy. He told Mr. Brown that the cleaning establishment has a large volume of business and makes a favorable profit each month. Mr. Brown wants to know more about what the company is worth as well as the amount of profit earned. How can he obtain this information?

If the class response to this question does not bring forth the suggestion that part of the information Mr. Brown wants is shown on the balance sheet, the teacher may continue:

You will recall that we made some balance sheets for individuals during our first week in class. Do you remember what types of accounts were on those balance sheets?

This question will bring out the idea that the balance sheet is a statement of assets, liabilities and proprietorship.

The teacher then reviews the placement of the various types of accounts, the rulings used, and the heading of the completed simple balance sheet which is on the board.

The class is then ready to prepare the balance sheet from the work sheet which is on the board. The teacher and the class to

gether prepare the balance sheet. The balance sheet heading, the work sheet source for each item, the placement of each item, and the correct rulings would be discussed, demonstrated, and recorded by both the teacher and the students. The teacher places the balance sheet on the ruled form on the chalkboard while the students complete the same balance sheet at their seats.

Net Profit (or Net Loss) Figure Most students can identify the asset and liability items from the work sheet and list them in proper order on the balance sheet. The proprietorship section, however, may not be clear. Before recording the proprietorship section on the balance sheet, the teacher sets up the accounting equation ($A = L + P$) on the board. The total assets and the total liabilities are obtained from the partially completed balance sheet. The equation is then used to obtain the total proprietorship. The teacher then points out that if the balance sheet is to balance, the total proprietorship must equal the amount as shown by the equation. This is then shown to be the sum of the capital and the net profit as shown on the work sheet. Attention is directed to the capital figure shown on the work sheet as not being up to date because transactions involving income and expenses are entered in temporary accounts rather than in the proprietor's capital account. The net profit figure on the work sheet summarizes the balance of these accounts and is the amount to be added to (or subtracted from) the capital to bring it up to date.

PRESENTING THE PROFIT AND LOSS STATEMENT

Two basic principles may be observed in the teaching of the profit and loss statement: (1) build upon the knowledge that students already possess and (2) teach first those procedures that are most easily understood. Most bookkeeping textbooks observe these principles by using a service type of business for the first bookkeeping cycle. This permits the most difficult section of the profit and loss statement, the cost section, to be delayed until the students have had an opportunity to prepare a number of statements.

Service Business A restaurant or laundry makes an excellent beginning illustration. Almost any student in the class can tell you that the profit for a laundry is found by subtracting the expenses from the total income. This introduces the first of a series of

formulas which are used within the profit and loss statement. This formula may be written on the chalkboard in two forms

$$\text{Income} - \text{Expenses} = \text{Profit}$$

Income	\$2,500
Expenses	960
Profit	<u>\$1,540</u>

The form on the left emphasizes the relationship of the three items as an equation with which the students are familiar as a result of their study in mathematics classes and of the fundamental book-keeping equation. The formula on the right shows those relationships in the form that they appear on the income statement.

Data from work sheet If the columns of the Profit and Loss section of the work sheet are appropriately headed "Cost and Expenses" and "Income," students will have no difficulty in identifying the income items and the expense items necessary for the work sheet.

As with the balance sheet, it is recommended that the teacher prepare the profit and loss statement through class discussion from the same work sheet used in the preparation of the balance sheet. The teacher places the profit and loss statement on the ruled form on the chalkboard while the students complete the same statement at their seats. The heading, placement of each item, and correct rulings would be demonstrated by the teacher and practiced by the students.

Net profit figure It is extremely important that students see the interrelationship between the financial statements. For this reason the teacher emphasizes that the net profit (or loss) as shown on the work sheet is the same as that obtained from the profit and loss statement. In turn, the profit as shown on the profit and loss statement is the same as that shown on the balance sheet and proved by the fundamental equation, $A = L + P$.

Students tend to minimize the importance of headings in business statements. The heading of a statement is as important a part of the statement as any other information it may contain. When placing statements on the chalkboard, the teacher can give status to the heading by always placing a proper heading at the top of each statement.

The heading The distinction between the date as shown on the balance sheet and the dates shown on the profit and loss statement should be pointed out. The balance sheet is prepared as of a specific

date while the profit and loss statement covers a period of time and therefore must show inclusive dates, such as "from July 1 to September 30, (Year)," "For Month of April, (Year)," or "For Year Ended December 31, (Year) "

There appears to be a trend away from the term 'profit and loss statement' among businesses. Terms such as 'income statement,' "statement of income and expenses," "statement of earnings" are being used. Students should therefore become acquainted with these titles.

Statement headings may be either two line or three-line headings.

Merchandising Business Later in the bookkeeping course, usually after the first cycle has been presented, the students will meet the problem of preparing a profit and loss statement for a merchandising business. The cost section is the new element in this statement. The fact, however, that the students understand the basic elements of the profit and loss statement and have prepared a number of such statements for service type businesses simplifies the presentation and permits concentration on the one section, the cost section.

The first problem used in the demonstration should be simple, with the cost figures supplied rather than to be calculated. Most students will know that the profit on the sale of any article is found by subtracting the cost price from the sales price. This same rule or formula applies to the total sales of a business in the same way that it does to the sale of a single article. This formula is developed

Sales Price — Cost Price = Profit	Sales Price	\$5,000
	Cost Price	2,000
	Profit	<u>\$3 000</u>

Immediately the question of expenses is raised and these are subtracted from the profit. After they are subtracted, the remainder is also labeled "profit," it is now necessary to distinguish between the two profits (gross and net)

Sales	\$5 000
Cost Price	2 000
Gross Profit	<u>\$3 000</u>
Expenses	1,600
Net Profit	<u>\$1 400</u>

Thus the formula must be restated and a second one is introduced

- (1) Sales — Cost of Goods Sold = Gross Profit
- (2) Gross Profit — Expenses = Net Profit

The teacher would do well to have the students work two or three problems that will clinch these relationships before introducing the method of determining the cost of goods sold when it is not known. Problems such as the following could be used.

The Marjorie Duncan Shop sold merchandise during May totaling \$14 000. The cost price of this merchandise was \$8 000 and the expenses were as follows: Salaries \$2 000, Rent \$400, Utilities \$50, Office Expense \$300. Determine the gross profit and the net profit.

The cost section. One plan that has proved helpful in presenting the cost section is to use titles that describe quite fully the various figures used. Rather than using the conventional terminology at first the teacher should use more descriptive wording such as the following:

Cost of goods we had at the beginning	\$ 5 000
Cost of goods that we purchased	18 000
Cost of goods we could have sold	<u>\$23 000</u>
Cost of goods we did not sell	10 000
Cost of goods we sold	<u>\$13 000</u>

After the students master the principle involved the wording is changed to the conventional titles. This terminology may be made quite clear if the new titles are written to the right of the figures used as follows:

Cost of Goods Sold

Cost of goods we had at the beginning	\$ 5 000	Beginning Inventory
Cost of goods that we purchased	18 000	Purchases
Cost of goods we could have sold	<u>\$23 000</u>	Merchandise Available for Sale
Cost of goods we did not sell	10 000	Ending Inventory
Cost of goods we sold	<u>\$13 000</u>	Cost of Goods Sold

At this stage the following formula is presented

$$\begin{aligned} &\text{Beginning Inventory} + \text{Purchases} \\ &\quad - \text{Ending Inventory} = \text{Cost of Goods Sold} \end{aligned}$$

Here again is a good place to have the class solve two or three problems that will help them master this procedure before it is combined with the rest of the statement

Use simple examples A simple example from everyday life is one that has been observed by every class member is always good—for instance, every boy and girl has seen watermelons or baskets of fruit being sold directly from the farmer's truck backed up to the curb along the sidewalk.

Suppose a farmer begins one Saturday morning with 100 watermelons by noon he has only 25 melons left. His experience has shown that his afternoon sales nearly always exceed those of the morning. Therefore he places his 25 melons on the curb and sends his son back to the farm with the truck for more merchandise. An hour later the son returns with 80 additional melons. That night when they leave for home they have only 7 melons left. Most members of the class can tell you how many melons were sold ($100 + 80 - 7 = 173$).

The principle in this example is identical to that used in the figuring of the cost of goods sold for a business. In each case merchandise on hand to start with plus new merchandise obtained minus that on hand at the end represents the merchandise sold during the period. If students have trouble working with dollars suggest that they work the problem in melons, bicycles, or radios.

Use blocks The calculation of the cost of goods sold can be visualized by the use of wood or plastic blocks. Assume for example that the beginning inventory is \$4 000, the purchases \$9 000, and the final inventory \$5 000. Letting each block represent \$1 000, the teacher stacks 4 blocks together. To these she adds 9 more blocks, making a total of 13, representing the total merchandise available for sale. The teacher points out that both of the inventories and the amount of the purchases are valued at cost prices. He also points out that the records kept of goods sold were at selling prices—no records at cost prices were made. Several members of the class can

tell you that *the amount of the sales at cost figures* can be determined by taking away the 5 blocks representing goods still on hand. This will leave 8 blocks, as the amount of the sales at cost figures



Use colored blocks to dramatize cost of goods sold

Consolidate the inventory and the purchases One of the principles to emphasize is that *the goods still on hand may represent part of the beginning inventory and part of the purchases*. As goods are purchased, they are placed in the stock room and are later placed upon the shelves in the salesrooms. No effort may be made to separate the merchandise that was purchased during the fiscal period from that on hand at the beginning. (Point out that some stores always place the new stock at the back of the shelf and move the old to the front, so the old is sold first. Other stores do not follow this practice. The practice followed depends upon the type of merchandise handled.) As merchandise is sold, it might be taken from stock included in the inventory at the beginning of the fiscal period or from that purchased during the period, or from both. In other words, the \$4,000 of goods on hand at the start and the \$9,000 of merchandise bought lose their identity as such and become one figure, \$13,000 worth of merchandise available for sale. Thus, the \$5,000 of goods on hand at the end of the fiscal period also represents part of the beginning inventory and part of that purchased during the period.

If blocks are used for illustration, two different colors may be used. When this is done, the teacher should be careful to take away some of each color when the five blocks are removed from the pile.

Separate the cost section Some teachers prefer to have their students show, for a few weeks, the cost section as a supporting schedule to the profit and loss statement. After they have shown the

schedule separately, they may incorporate the cost section into the statement

Presenting the cost section as a supporting schedule appears to have several advantages. In the first place some students question the inclusion of an asset (merchandise inventory) on the profit and loss statement. Since this is a statement of income, expenses, and profit, why, they ask, show an asset on it? Showing the cost of merchandise sold as a supporting schedule meets this objection.

Many teachers have reported that their students have little or no trouble with the mechanics or the arithmetic of the cost section when they attack it separately. The preparation of a profit and loss statement is also quite a simple matter when the amount of the cost price of merchandise is supplied to the student. However, the student seems to become confused when he is asked to figure the cost of goods sold and incorporate the results into the profit and loss statement as one combined job. Thus, separating the cost section into a supporting schedule breaks down the profit and loss statement into two different calculations and seems easier for the student to manage.

The Marjorie Duncan Shop problem, showing the cost of goods sold as a supporting schedule would appear as follows:

Marjorie Duncan Shop			
Profit and Loss Statement for Month of May 19			
Income from Sales	14,290.00		
Cost of Goods Sold (Schedule 1)	7,570.00		
Gross Profit		7,720.00	
Expenses			
Salaries	2,200.00		
Rent	400.00		
Utilities	15.00		
Office Expenses	200.00	3,715.00	
Net Profit			4,005.00
Schedule 1			
Cost of Goods Sold			
Beginning Inventory (April 30, 19)	4,430.00		
Purchases (May)	1,870.00		
Cost of Goods Available for Sale		6,300.00	
Ending Inventory (May 31, 19)		1,120.00	
Cost of Goods Sold		5,180.00	

Test the answer by inspection Teachers should encourage their students to test their cost of goods sold figure by inspection. The teacher points out that if a person begins business with a given amount of merchandise, purchases additional goods and has less goods on hand at the end than he had to start with, he has *sold more than he has purchased*. For example

A business starts with \$4 000 worth of merchandise and ends the period with only \$2 500 worth on hand. The business has sold \$1,500 more merchandise than it purchased.

A business starts with \$4 000 worth of merchandise and ends the period with \$6 000 worth on hand. The business sold \$2,000 less merchandise than it purchased.

Thus, the amount of merchandise sold will differ from the amount purchased during the period by an amount equal to the difference in the last two inventories.

The cost of goods sold figure may be tested by determining the difference in the two inventories and adding or subtracting this difference from the amount of the purchases (all at cost figures). This can be illustrated by taking the figures from the Marjorie Duncan Shop profit and loss statement.

Ending Inventory	\$16 120
Beginning Inventory	4,930
Difference (Amount by which ending inventory exceeds beginning inventory)	<u>\$11,190</u>

Since the business has \$11,190 more merchandise at the end of May than it had at the beginning of May, the business purchased \$11,190 more goods than it sold. The cost of goods sold figure, therefore, should be \$11,190 less than the amount of goods purchased.

Purchases	\$18 860
Difference in Inventory	11 190
Cost of Goods Sold	<u>\$ 7,670</u>

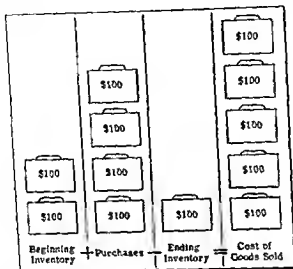
Other items At some point in the course, purchases returns and freight in are to be added to the cost of goods sold section of the profit and loss statement

It is obvious that returned merchandise has the same net result as if goods were never purchased. The business does not have the goods, therefore, returned merchandise should not be included in the net purchases figure. Freight adds to the cost of goods purchased from firms other than local ones. Most of the class members have had experience ordering articles from the large mail order houses. They know that a small amount must be added for postage. Assume, for example, that a garden tool which may be purchased for \$2.65 requires a charge of 35 cents for shipping, which increases the cost to \$3, the price that must be used when comparing its cost with the cost of tools of equal quality bought locally. The situation with a business is exactly the same. If there is no local wholesaler from whom the merchant may purchase his merchandise, he must include the freight as a part of the cost price of the goods purchased. This expanded cost of goods sold section appears as follows:

Cost of Goods Sold		
Merchandise Inventory (Beginning)	\$10,560	
Purchases	\$8,175	
Less Purchases Returns	95	
Net Purchases	<u>\$8,080</u>	
Add Freight In	67	
Net Cost of Merchandise Purchased	<u>8,147</u>	
Total Merchandise Available for Sale	\$18,707	
Merchandise Inventory (Ending)	<u>9,417</u>	
Cost of Goods Sold		\$9,290

Select your procedures Some procedures used by successful teachers to help students understand the cost section of the profit and loss statement have been presented. It is not intended that all of them would be used with the same group of students. Through experimentation, the teacher can determine the methods that he can use best. The teacher must also remember that one plan may

work best with one group, and another one may be more suitable with a different class



Visualizing Cost of Goods Sold With Concrete Objects

VISUAL AIDS

The following visual aid material is available for use in the teaching of the profit and loss statement

*Filmstrips*¹ 1 Preparation of the Work Sheet and Financial Statements McGraw Hill Book Company Bookkeeping Filmstrip Series

2 'The Bookkeeping Cycle—Part 3, Work at the Close of the Fiscal Period Society for Visual Education Bookkeeping Filmstrip Series

Chart Bookkeeping Wall Chart No. 3—Work Sheet and Financial Statements George F. Cram Company, Inc.¹

Colored Chalk To direct students' attention to the fact that a figure is a *net loss* and not a *net profit*, colored chalk may be used for the net loss figure

Masking Out of Board Work The suggestion was made that in introducing this unit the teacher place on the chalkboard before the start of the period a balance sheet, a work sheet, and a balance

¹ See Appendix H

sheet form This material could be masked over until needed For example, the work sheet and balance sheet form could be covered over until after the explanation of the simple balance sheet has been completed

When the balance sheet and the profit and loss statement are reviewed, the completed statements may be placed on the chalk board before the beginning of the period and masked over The masking could be removed from each section as needed in presenting the review This would save much class time

Bulletin Board Materials Many interesting bulletin board displays can be organized around this unit

Financial statements Balance sheets and profit and loss statements of well known companies contained in their annual reports to stockholders can be displayed, also, such statements from local companies if they are available The opaque projector may be used to project some of these statements for class discussion

Heading of the financial statement A bulletin board display can be used to emphasize the three fundamental parts in the heading of every financial statement Whose? What? When?

Interrelationship of financial statements A display showing the same net profit figure appearing on the work sheet, profit and loss statement, and balance sheet will emphasize the interrelationship of the statements and how one statement serves to prove the accuracy of the others

Folding of Work Sheet When the financial statements are prepared from the work sheet, errors may be made in transferring the account title and figure from the work sheet to the financial statement In following across from the account title to the amount in the profit and loss or balance sheet columns the incorrect figure may be picked up Pleating or fan folding the work sheet is one means of avoiding such errors

1 Fold the work sheet so that the Profit and Loss Statement columns are next to the account titles The column headings showing then are Account Title, P & L, Statement, Balance Sheet Thus the figures are next to the account titles

2 After the profit and loss statement has been completed, refold the work sheet so that the Balance Sheet columns are next

to the account titles. The column headings showing are then Account Title Balance Sheet

PROBLEMS QUESTIONS AND PROJECTS

1 Do you prefer to teach the balance sheet or the profit and loss statement first? Why?

2 Why is the proprietorship figure that is shown on the work sheet out of date for balance sheet purposes?

3 The suggestion was made in this chapter that while the teacher demonstrates and prepares the balance sheet at the board the students complete the same balance sheet at their seats. Why is this a good practice? Can you think of any disadvantages to the procedure?

4 In your opinion what is the clearest and best way to teach the cost of goods sold section of the profit and loss statement?

5 The suggested method of showing the cost of goods sold section as a supporting schedule to the profit and loss statement to help students understand how this section is calculated is criticized as being unrealistic. It is argued that students should not be shown a method that is inconsistent with practice. Is the criticism justified? Explain your answer.

6 Prepare a bulletin board display appropriate for use with the unit on financial statements.

7 Prepare a lesson plan for the presentation of one of the following

- a The balance sheet
- b The profit and loss statement for a service type business
- c The development of the cost of goods sold section of the profit and loss statement

CASE PROBLEM

A survey of the financial statements of one hundred large corporations revealed the following facts

1 The report form of balance sheet was used more frequently than the account form

2 The most frequently used titles listed in order of frequency were

Statement of Income
Statement of Earnings
Statement of Income and Expenses
Profit and Loss Statement

3 Comparative financial statements are usually provided

4 The majority of profit and loss statements contained only totals such as net sales, cost of goods sold, selling and general expenses. The statements did not show the details under each item

5 The term "fixed liabilities" has been largely replaced by "long-term obligations" or "long term liabilities"

6 The majority of financial statements were shown only in round dollars, a few were given in even hundred-dollar figures only

What implications, if any, do you think the findings of this survey have for the teaching of first year bookkeeping in the high school?

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Teaching the Closing Entries

TEACHERS CLAIM THAT the topic of closing entries is one of the most difficult topics in bookkeeping for students to understand. Part of this difficulty results from the fact that beginning bookkeeping teachers themselves do not always understand the principle of closing entries. Many a teacher has commented that he did not really understand closing entries when he first faced the problem of trying to explain them to a class. This chapter, therefore, is devoted not only to a discussion of teaching procedure but also to an explanation of the basic reasoning and procedures underlying closing entries.

In explaining closing entries, the teacher must answer the following questions:

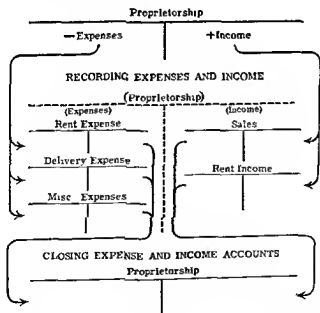
- 1 Why are temporary accounts closed?
- 2 What accounts are closed? Are the same accounts closed each time?
- 3 What entries are needed to close these accounts?
- 4 When are the entries made?
- 5 How are the accounts ruled?

WHY TEMPORARY ACCOUNTS ARE CLOSED

Income and expense accounts are temporary proprietorship accounts. Transactions that increase or decrease the profit are recorded in these temporary accounts. At the end of the fiscal period

this profit is transferred to the capital account or accounts. This is done by closing all temporary proprietorship accounts and crediting the capital account with the net profit (or debiting it with the net loss).

To demonstrate to the class why temporary accounts are closed, the teacher may start with the proprietorship (capital) account and remind the students that when income and expense items were first introduced they were recorded directly in the proprietorship account, as they resulted in increases and decreases in proprietorship. Since this procedure did not provide all the information desired (the amounts of the different incomes and expenses that resulted in the net profit or net loss), temporary proprietorship accounts were established to record expenses and incomes. In reality, income accounts are but a subdivision of the credit side of the proprietorship account, expense accounts are but subdivisions of the debit side of the proprietorship account. To show this basic relationship, the teacher may place on the board an illustration such as the following one:



At the end of the fiscal period the balances in these temporary accounts are transferred to the proprietorship account, as the net

profit or net loss from the operation of the business belongs in the proprietorship account

In addition to transferring the profit or loss to the capital account the closing of all temporary proprietorship accounts serves another useful purpose. Some accounts such as the Sales account and the Miscellaneous Expenses account contain many entries. By closing these accounts and ruling them, it will not be necessary in the future to deal with the figures of previous fiscal periods when calculating account balances. Thus considerably simplifies the arithmetic involved.

The teacher should emphasize that closing these ledger accounts is a means to an end, not an end in itself. *The purpose is to have the ledger show the same information that is shown on the balance sheet, as far as the proprietorship section is concerned.*

ACCOUNTS TO BE CLOSED

What accounts are closed? This question can be answered simply and briefly. *All temporary proprietorship accounts are closed.* Three principal classes of accounts are involved, namely, *income, cost, and expense* accounts. All accounts in these classifications are closed at the end of each fiscal period. In addition, the proprietor's drawing account is usually closed.

The term "closing" frequently confuses students. Therefore, the teacher must not only identify the accounts that are *closed*, but also explain what is meant by *closing* an account. Closing an account has several meanings. For example, a customer may close his account, meaning that the customer pays the balance of his account and discontinues his dealings with the business. Closing entries, however, imply a somewhat different meaning. The term "closing" means to *transfer* the balance of an account, and thus to *close* the account. How the balance of an account is transferred needs to be demonstrated and drilled. This may be done by placing a number of accounts with debit and credit balances on the chalkboard. The teacher may demonstrate and the students practice identifying (a) the amount needed to balance the account, (b) on which side of the account the entry would be made to balance the account, and (c) the corresponding debit or credit entry necessary to transfer the balance.

HOW ACCOUNTS ARE CLOSED

The first demonstrations and drill on closing entries should be as simple as possible to insure that each student understands the fundamentals involved. The following procedure is suggested.

1 *When first introducing closing entries close the accounts directly to the proprietorship account.* In preparation for closing entries, students have been shown that the income and expense accounts are but subdivisions of the proprietorship account and that the purpose of closing entries is to transfer their balances back to the proprietorship account.

This explanation shows the relationship of the expense and income accounts to the proprietorship account and the basic function of the closing entries.

2 *Introduce the profit and loss summary as an aid in the closing process.* After the students have become familiar with the technique of closing the income and expense accounts directly to the proprietorship account, the profit and loss summary account may be introduced. The summary account is introduced as a convenience in the closing process as a way of accumulating the expenses and income so that only the net profit or net loss may be transferred to the proprietorship account. The drawing account is introduced after the summary account.

Steps in Closing Procedure. Some teachers like to close almost all accounts in one compound entry, others prefer a separate entry for each classification of accounts. (Some even close each individual account separately.) To avoid confusion, the teacher should follow whatever pattern is used in the textbook.

As a general rule a summary account, usually called the Profit and Loss Summary, is opened in the ledger and the temporary accounts are closed into this summary account. If one compound entry is made for each different classification of accounts, there would be four principal entries.

Step 1 Close all *income accounts* into Profit and Loss Summary. The balance of income accounts are always credits, therefore these credit balances will be transferred to the credit side of Profit and Loss Summary. A debit entry is needed to close the income accounts.

<i>Example</i>	Sales	\$8,000
	Profit and Loss Summary	\$8,000
	To close the Sales account into Profit and Loss Summary account	

After Sales Returns and Allowances is introduced, the entry becomes

Sales	\$8,000
Sales Returns and Allowances	\$ 500
Profit and Loss Summary	7,500

*Step 2*¹ Close all *cost accounts* into Profit and Loss Summary The balance of Purchases is a debit, therefore it will be transferred to the debit side of Profit and Loss Summary A credit entry is needed to close the Purchases Account

<i>Example</i>	Profit and Loss Summary	\$3,000
	Purchases	\$3,000
	To transfer the cost of goods sold from the Purchases account to the Profit and Loss Summary account	

(Purchases Returns and Allowances would be debited and included in this entry when such an account appears in the trial balance Freight In is also included in the compound entry)

Step 3 Close all *expense accounts* into Profit and Loss Summary The balances of expense accounts are debits so these balances will be transferred to the debit side of Profit and Loss Summary Credit entries will be required to close the expense accounts

<i>Example</i>	Profit and Loss Summary	\$2,000
	Rent Expense	\$800
	Delivery Expense	400
	Depreciation Expense	500
	Miscellaneous Expenses	300
	To close the expense accounts into the Profit and Loss Summary account	

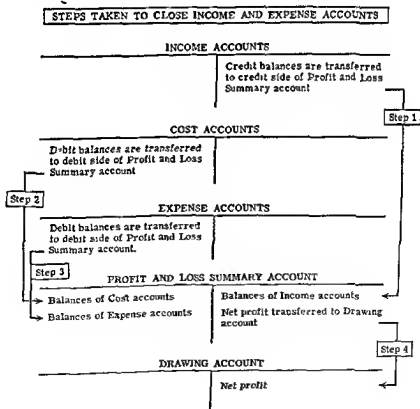
The result of these entries will be a balance equal to the amount of the net profit in the Profit and Loss Summary account This balance is then closed into the proprietor's drawing account

¹ A service type of business is usually used for the first bookkeeping cycle and no purchases account would be involved Therefore, this step would be omitted when presenting the first series of closing entries

Step 4 Transfer the *net profit* from Profit and Loss Summary to the proprietor's drawing account. Since the profit is on the credit side of the summary account, it will be transferred to the credit side of the drawing account. (The drawing account would be debited if there were a loss.)

Example Profit and Loss Summary \$2,500
 John Doyle, Drawing \$2,500
 To transfer the profit to the
 proprietor's drawing account

The data for the closing entries may be found in the Profit and Loss Statement columns of the work sheet.



Drawing Account There is a current trend not to close the drawing account into the capital account. The intention of the

proprietor regarding the earnings determines whether the drawing account should remain open or should be closed into the capital account

If the proprietor intends to withdraw the profit for his personal use, it should be left in the drawing account. On the other hand, if he wishes to increase his investment in the business by the amount of the profit, it should be transferred to the capital account. In fact, he might choose to reinvest a portion of the year's earnings and to withdraw the balance. In this case the amount he wishes to invest should be transferred to his capital account, and the balance of the profit left in the drawing account to be withdrawn at his pleasure.

If, however, the practice of closing the drawing account to the capital account is followed, a fifth step would be added

Step 5 To transfer the balance of the drawing account to the proprietor's capital account

<i>Example</i> John Doyle, Drawing	\$2,000	
John Doyle, Capital		\$2,000

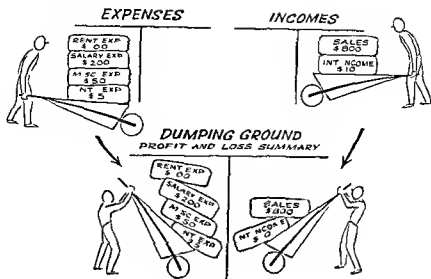
Steps 4 and 5 may be combined and the Profit and Loss Summary account and the drawing account may both be closed into the proprietor's capital account with a single entry

<i>Example</i> Profit and Loss Summary	\$2,500	
John Doyle, Drawing		\$ 500
John Doyle, Capital		2,000

To close the Profit and Loss Summary account and the Drawing account into the Capital account, transferring the profit to the Capital account

Other Income and Expense Items After the income statement is expanded with separate sections for financial income and financial expenses, one entry may be made to close the operating income accounts and a separate entry for the financial income accounts. Likewise, separate entries will be made for the operating expenses and financial expenses.

The explanations that are used must be clear and to the point—they should tell exactly what the entry is to do.



Visualizing Closing Entries

RULING THE LEDGER ACCOUNTS

After the closing entries have been posted, the income, cost, and expense accounts are *ruled* the asset, liability, and capital accounts are *balanced* and *ruled*. This step appears to be such a simple procedure that all too frequently it is never taught, with the result that some students never balance and rule accounts properly.

The teacher may teach balancing and ruling by placing a few simple rules on the chalkboard and then illustrating each while the students make similar balancing and rulings at their seats. Frerichs suggests the following rules:

To rule income, cost, and expense accounts and the Profit and Loss Summary account

1 After the adjusting and closing entries have been posted, each of the income, cost, expense accounts, and the profit and loss summary should have figures on both sides of each account. These figures should add to equal totals in each account.

2 To rule an account draw a single line on the same line under the amount columns of the account.

3 Add each side of the account and put the equal totals on the same line on each side of the account.

4 Draw double lines under the equal totals on the same line under all columns but the items columns on the account

5 In some accounts the only debit entry in the account equals the only credit entry. In this case, do not draw single lines and put the figures in again as totals, but draw double lines under the original equal entries on the same line under all columns but the items columns of the account

To balance and rule asset liability, and capital accounts

1 Only accounts with amounts entered on both the debit and credit side are balanced and ruled

2 On the lesser side of the account enter the date of the last day of the fiscal period, enter the word 'balance,' check the posting reference column, and enter the balance figures so the two sides will add to equal figures

3 Follow the same procedure as presented for ruling accounts

4 After the accounts have been ruled on the correct balance side of the account write the date of the first day of the new fiscal period, write the word 'balance,' check the posting reference column, and write the balance figure in the amount column *

POST CLOSING TRIAL BALANCE

After the ledger is closed and the accounts are balanced and ruled, a trial balance of the ledger is taken. The purpose of this trial balance is to see if the ledger is in balance before beginning the recording of transactions for the next fiscal period.

The teacher will want to point out that nothing appears on the post closing trial balance except permanent accounts. In fact, the accounts listed on the post closing trial balance and their balances will be identical to those appearing on the balance sheet. A student sometimes asks why the post closing trial balance must be taken since it is just like the balance sheet. Such a question indicates the student does not understand the function of the trial balance. The post-closing trial balance is prepared to see if the ledger is correct after it has been closed. If the picture obtained is like that of the balance sheet, it is correct. The purpose of the post-closing trial balance is that of checking on the accuracy of the entries made during the ledger closing process.

* Alberta J. Frerichs "Ruling the Ledger Accounts" *Business Education Forum* vol. 10 p. 14 December 1955

VISUAL AIDS

The following helpful visual aids are suggested here

Filmstrips ¹ 1 'Closing Entries' McGraw-Hill Book Company Bookkeeping Filmstrip Series

2 "The Bookkeeping Cycle—Part 3—Work at the Close of the Fiscal Period" Society for Visual Education Inc., Filmstrip Series

Wall Chart "Bookkeeping Wall Chart No. 4—Closing the Ledger for a Service Business" George F. Cram Company, Inc. ²

PROBLEMS, QUESTIONS, AND PROJECTS

1 What is the advantage of comparing the proprietorship section of a balance sheet with the capital account in the ledger as a point of departure for introducing the topic of the closing entries?

2 It has been suggested that one should never use the term "temporary accounts" but should always be careful to say 'temporary proprietorship accounts' Do you agree?

3 Do you think that it is better to make a separate closing entry for each different classification of accounts—income, cost, expense—or to make only one compound entry to close all temporary proprietorship accounts?

4 What do you consider to be the most important idea to be made clear to students in the teaching of closing entries?

5 Do you think it would be helpful if the use of a drawing account by the proprietor were learned by the student *before* the closing entries are explained?

6 What *activities in everyday life* are analogous to the principles of recording certain transactions in temporary accounts during the fiscal period and then transferring that information to a permanent place at the end of the period? One example would be the wastebaskets throughout the house and the trash can behind the garage, another would be the catchall jar or drawer where odds and ends are accumulated until the day when it is emptied, its contents sorted and 'filed' where they belong. Suggest others.

7 The closing entries might be compared to the end-of-year recording activities of the teacher when he transfers each student's final grade for the semester to the permanent record book in the principal's office. Develop this analogy. In what way does the teacher's record book

¹ See Appendix H

correspond to the Profit and Loss Summary? To what bookkeeping procedure does the final semester's grade correspond? What corresponds to the many journal entries that were recorded in the various income and expense accounts?

CASE PROBLEMS

1 Joan Rogers begins her teaching of the unit on the closing entries by comparing the process with the procedure followed by a building contractor. The contractor first builds a small shed which is used for storing certain tools and as the on the job headquarters or office. When the main building is completed he moves the temporary building away. Also when the large building is completed he closes his cost sheet and determines the cost of the building and his profit. Then he begins a new building and a new cost sheet. What do you think of this approach?

2 Joseph Spurlock introduces this unit by asking the question: In what accounts do we find the records that affect the profit? (The answer of course is in the income cost and expense accounts.) Then he says: If we summarized the information recorded in these accounts we would have

Summary

Cost Expenses	Income
------------------	--------

This is exactly what we have in the profit and loss statement section of the work sheet.

James Jones Work Sheet December 31 19—

	Trial Balance		P & L Statement	
	Debit	Credit	Debit	Credit
Assets	xx			
Liabilities		xx		
Proprietorship		xx		
Sales		1,200		1 200
Rent Expense	150		150	
Salary Expense	180		180	
Miscellaneous Expenses	220		220	

He then goes to the board draws in a heavy T superimposed on the work sheet under the P & L Statement section and shows the class it is comparable to the summary shown above Evaluate this teaching procedure

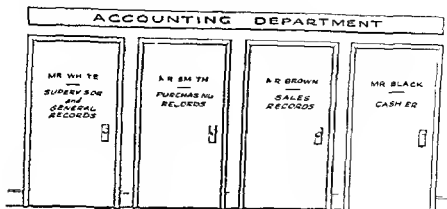
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Teaching the Special Journals and Control Accounts

SPECIAL JOURNALS ARE one of the easiest topics in bookkeeping to present provided the class has a thorough understanding of journalizing in the two-column journal and of posting. The following objectives are suggested for the unit.

- 1 To point out the advantages of special journals
 - a Reduces the amount of space required to record transactions
 - b Facilitates division of labor and thus permits the use of more than one person in keeping the records
 - c Reduces the number of postings to ledger accounts
 - d Decreases the opportunity for errors
- 2 To develop the basic principles of special journals
 - a Recording of transactions with a common debit or a common credit in one book of original entry
 - b Use of special journal rulings to fit the special transactions and thus to facilitate journalizing
 - c Posting of totals to save time and improve accuracy
 - d Frequency of any given type of transaction determines the need for a special journal
- 3 To teach the use of special journals
 - a How to record transactions
 - b How to prove rule and post



Special Journals Permit Division of Work

THE PURCHASES JOURNAL

Preparation for the Lesson Before the class begins, place on the chalkboard at the front of the room a two column journal containing various types of transactions. Included in these entries would be several transactions recording purchases of merchandise on credit. One of these would be a compound entry recording three invoices in one entry as follows:

Purchases	\$1,200	
R L Roberts Inc		\$400
Henry Adams and Son		320
Whitman's Wholesale Grocery Co		480
To record purchases invoices 1384,		
760, and 444 received today		

To the right of the two column journal, place a group of T accounts and enter in these accounts the transactions recorded in this journal. To the right of these T accounts, show a purchases journal, and to the right of that show another set of blank T accounts.

Introducing the Lesson Call attention to the fact that in the completed T accounts there is a debit for every credit as entered in the journal, also that the total debits equal the total credits, as they do in the journal. Then point out that the transactions to record purchases on credit are scattered throughout the journal but the

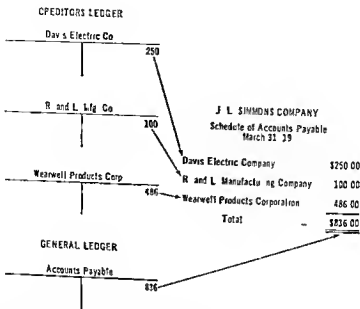
three purchase invoices received on the same date could be recorded as one compound entry. This compound entry enables us to post to the ledger account only the total of the three purchases, \$1,200, instead of each of the three figures, \$400, \$320, and \$480.

The question may be asked, 'Why not enter all credit purchases in one compound entry?' The answer, of course, is that transactions are entered as they occur and that purchases invoices are received periodically. Then the teacher could ask, "What would be gained if it were possible to enter all credit purchases as one compound entry?" The answer would be that this would facilitate entering all credit purchases in one place instead of having them scattered on many pages. A compound entry would also enable the bookkeeper to post one figure to the Purchases account rather than many debits.

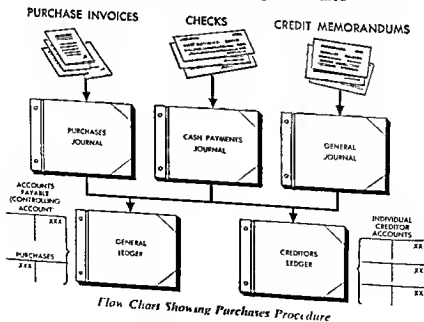
The teacher can then tell the class that a device known as a purchases journal makes it possible to record all credit purchases in one place and to post only the total purchases to the ledger. The students are now ready to listen to the explanation of the purchases journal because they see the value of it. Also, the *principle* involved in the purchases journal is clarified even before the journal is introduced because the class understands that in the compound entry the equality of debits and credits is maintained.

Recording Transactions in Purchases Journal The next step would be to enter in a purchases journal on the chalkboard all transactions involving credit purchases that appear in the two-column journal and then to post them to the T accounts to the right of the purchases journal on the chalkboard. A comparison of the two ledgers shows that they are identical except for the Purchases account which in the second set of T accounts has only one debit entry, the amount of which is equal to the total of all the smaller debit entries in the Purchases account in the first set of T accounts.

Stress the fact that the rulings provided in the purchases journal are planned so as to record the seven basic facts of each credit purchase: date, creditor's name, creditor's address, invoice number, invoice date, terms, and invoice amount. By having the students list the information needed on each credit transaction and

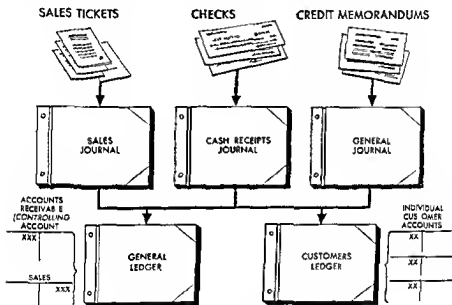


(accounts payable, or creditors, ledger). A schedule, or an abstract, of the subsidiary ledger is then prepared and the total in the Accounts Payable account in the general ledger is verified



THE SALES JOURNAL

The principles involved in the purchases and sales journals are identical. After the teacher presents one in detail, he may present the second one in much less time by comparing the two and showing that exactly the same principles are involved in each journal. He should, however, point out the differences in the headings of the two journals and the need for a second subsidiary ledger (accounts receivable, or customers, ledger)



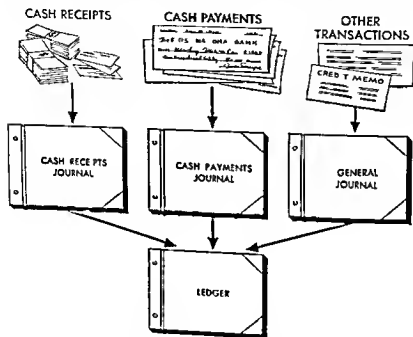
Flow Chart Showing Sales Procedure

After the students have solved a few problems and have become acquainted with the method of recording credit sales in the sales journal, other methods of handling credit sales may be presented. For example, many large business firms file the individual sales tickets in folders rather than entering them in sales journals. Each day only one entry for the total credit sales of that day is made in the sales journal and the sales tickets are filed in the customers' folders. The Kolect A-Matic System of Remington Rand Inc., is an excellent example of this method.¹

¹ Remington Rand Inc. issues a folder entitled *Kolect A-Matic* that explains how the system works.

THE CASH JOURNALS

The cash journals may be introduced in a way similar to that used for the purchases journal. The journals used should include a variety of cash transactions. The teaching procedure and the principles involved are the same. The headings of the journals are, of



Flow Chart Showing Cash Receipts and Cash Payments Procedures

course different and must be explained. The balancing and ruling of the cash journals should also be explained. Some texts introduce a cash payments journal with a special column for payments to creditors and a cash receipts journal with a special column for receipts from customers. The relationship between these special columns and the subsidiary ledgers and the control accounts in the general ledger must be made clear.

Cash Sales and Cash Purchases When only credit sales and credit purchases are entered respectively, in the special sales journal and purchases journal, students frequently raise the question

about the recording of cash sales and cash purchases. This situation provides an excellent opportunity to develop the basic principles upon which all multiple column journals are based.

A cash receipts journal containing a number of cash sales entries may be shown on the chalkboard. The teacher points out that the cash sales transaction occurs repeatedly. While the Sales account has only one posting for the total credit sales (because of the use of the special sales journal), it contains an individual posting for each cash sale.

The teacher then raises the question about what can be done to have only one posting for all the cash sales. A student will generally suggest that a special cash sales journal be used. A discussion of this proposal, however, will show that cash receipts would be recorded in two places. This practice would be impractical. The discussion will eventually lead to the suggestion that a special column be placed in the cash receipts journal where all cash sales can be accumulated and the total of the column posted to the credit side of the Sales account. A special sales credit column would be added to the cash journal and its use demonstrated.

The teacher should follow the same procedure in handling the cash purchases.

Out of these class experiences the teacher can establish the following basic principles:

1. A special column may be added to either the cash receipts journal or cash payments journal whenever a debit or a credit item occurs so frequently as to make such a column a timesaver.

2. The use of special columns is not limited to either the cash receipts journal or the cash payments journal. Special columns may be added to any journal.

3. The use of the special column does not change the principles of debits and credits. It merely permits the accumulation of all items going to the one side of an account so that they may be posted in total instead of individually.

4. There is no limit to the number of columns that may be added to any one journal.

One teacher emphasizes these principles by duplicating for distribution to her class a two column cash receipts journal containing several pages. The journal has a large number of recurring

transactions. The students are requested to analyze the journal and develop an appropriate multiple column journal to replace the duplicated journal. To prove its practicality they are to record the transactions in the journal they develop.

Special Problems Experienced teachers report the following errors as the most frequent ones made by students in using multiple column cash receipts and cash payments journals.

- 1 Failure to use a check mark (✓) to avoid double posting when an entry is recorded in two journals
- 2 Failure to prove the journal by determining the equality of the total debits and total credits
- 3 Incorrect recording of the beginning cash balance
- 4 Failure to post the totals of all columns requiring posting
- 5 Incorrect use of the General Ledger debit and credit columns

Each of these problem points requires special attention. Each should be demonstrated and drill material should follow each demonstration.

SUBSIDIARY LEDGERS AND CONTROL ACCOUNTS

Two of the principles that teachers should try to observe in the teaching of bookkeeping are (1) keep the material simple and (2) teach so as to avoid unlearning later. Both of these suggestions may be followed if control accounts are introduced when special journals are first presented.

If the special journals are taught with the details of the individual customer and creditor accounts shown in the general ledger this procedure must be unlearned when the control accounts are introduced later. Therefore it seems most desirable to introduce the control accounts and the subsidiary ledgers when the special journals are first presented.

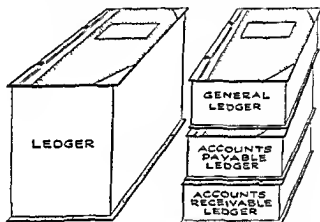
Terminology One of the problems in many areas of bookkeeping is that of the load resulting from new terminology. The topic of control accounts is a good example. In the first place the chief function of the control account used in the general ledger (Accounts Receivable or Accounts Payable) is one of summarization rather than one of control. In fact most textbooks define the term control account as a general ledger account that sum-

marizes the detailed information shown in a group of related accounts in a subsidiary ledger

The steps to be followed may be summarized as follows

1 Enter the transaction in the book of original entry
(Use the purchases journal as an example)

2 Post the total of the special journal Since the total represents the amount of goods purchased, it is debited to the Purchases account Since it also represents the amount owed to the creditors as a result of the purchases made, this same total is posted to the credit of the *control* account Accounts Payable



3 Post the individual entries in the special journal At this point the *subsidiary ledger is introduced* as the book in which the record for each individual creditor is kept It might be well to point out that the posting of the individual entries in the special journal does not represent double posting since only the total was posted to the general ledger The posting of these individual entries to the subsidiary ledger does not in any way affect the general ledger

4 Explain the relationship between the subsidiary ledger and the summary account in the general ledger The detail in the accounts payable ledger shows the amount owed to each creditor while the balance in the Accounts Payable account in the general ledger shows the amount owed to all creditors combined Naturally, the total of all balances in the subsidiary ledger should be equal to the balance in the summary account in the general ledger A

PURCHASES JOURNAL

Page 1

DATE	ACCOUNT CREDITED	ADDRESS	INVOICE		TERMS	POST. REF.	PURCHASES DEBIT
			NO.	DATE			
Mar 24	Wearwell Products Corp.	New York	1175	3/12	2/10	✓	486.00
	Davis Electric Co.	City	118	3/12	2/10	✓	255.00
	Rand L Mfg. Co.	Buffalo	120	3/12	2/10	✓	100.00
	Purchases Total/Accounts Payable Credit						841.00

GENERAL LEDGER

Accounts Payable

Account No. 27

DATE	EXPLANATION	POST. REF.	DEBIT AMOUNT	DATE	EXPLANATION	POST. REF.	CREDIT AMOUNT
				Mar 31	Total Purchases	P1	841.00

Purchases

Account No. 50

DATE	EXPLANATION	POST. REF.	DEBIT AMOUNT	DATE	EXPLANATION	POST. REF.	CREDIT AMOUNT
Mar 31	Total Purchases	P1	841.00				

CREDITORS LEDGER

Davis Electric Co.

City

DATE	EXPLANATION	POST. REF.	DEBIT AMOUNT	DATE	EXPLANATION	POST. REF.	CREDIT AMOUNT
				Mar 24	Invoice No. 118	P1	255.00

Rand L Mfg. Co.

Buffalo

DATE	EXPLANATION	POST. REF.	DEBIT AMOUNT	DATE	EXPLANATION	POST. REF.	CREDIT AMOUNT
				Mar 24	Invoice No. 120	P1	100.00

Wearwell Products Corp.

New York

DATE	EXPLANATION	POST. REF.	DEBIT AMOUNT	DATE	EXPLANATION	POST. REF.	CREDIT AMOUNT
				Mar 24	Invoice No. 1175	P1	486.00

Summary of Entries and Postings for Purchases

schedule of account balances in the subsidiary ledger is prepared as a check against the balance shown in the general ledger account

To visualize the relationship between the general ledger and the subsidiary ledger, one teacher uses a loose leaf notebook containing a large number of ledger account pages. He directs the attention of the class to the bulkiness of the ledger and mentions that only one person can work on it at a time. The ledger is shown to contain approximately 100 pages of accounts receivable, 60 pages of accounts payable, and 40 pages of other asset, liability, and proprietorship accounts. The teacher then takes the 100 accounts receivable pages out of the ledger and places them in another loose leaf binder, called the accounts receivable ledger. He then asks whether or not the general ledger will balance now that the accounts receivable have been removed. The students readily recognize that it will not. The teacher then suggests that they insert one account in the general ledger to represent all the accounts removed. This account would show the balance of the accounts removed. This procedure is demonstrated and the general ledger is balanced. The same procedure is followed with the accounts payable.

Various Forms of Subsidiary Ledger Accounts When ledgers were first introduced to the students, it was pointed out that, in addition to the standard form of ledger account commonly used, various other forms are available. One of these forms contains three money columns, one for debit entries, one for credit entries, and a third for the current balance. The various forms of ledger account should be mentioned again in this lesson.

VISUAL AIDS

The following visual aids are helpful in the teaching of special journals and control accounts.

Films "SUIAP," available free of charge through your local Remington Rand, Inc., agent. This is an excellent film showing the use of business papers as a medium for posting directly to customer and creditor accounts.

Filmstrips "Controlling Accounts" Business Education Visual Aids Bookkeeping Filmstrips Series

Board Headings Permanent board headings can be prepared

on cardboard or hard board for each of the desired journals. They can be mounted at the top of the chalkboard when needed.

Bulletin Board Displays Journal forms may be collected from businesses in the community and arranged in a bulletin board display.

Charts All the charts displayed in this chapter could be prepared on permanent material and used year after year.

PROBLEMS QUESTIONS AND PROJECTS

1. What factor determines whether or not a specific special journal is used?

2. When all special journals are combined into one cash journal with many money columns, is the process of recording an individual transaction any different from that followed when individual special journals are used?

3. Can you see any advantage in presenting the purchases journal before the sales journal or vice versa?

4. Prepare chalkboard headings on cardboard strips for use in teaching the special journals.

5. In what way does a controlling account actually control?

6. In addressing a group of beginning bookkeeping teachers about teaching the sales journal, a teacher said, "By all means be sure to bring to class several actual sales slips and make your entries directly from them. Do you agree that this kind of practical teaching is important? Why or why not?"

7. Prepare a chalkboard demonstration showing how to do one of the following:

- Prove the equality of the total debits and total credits in a multiple-column cash receipts journal.
- Avoid double posting of an entry recorded in two journals.
- Record the beginning cash balance in the cash receipts journal.

CASE PROBLEM

To develop the idea that the use of special journals permits more than one person to work on the books at one time, a teacher divides his class into groups. Each group contains five students. The teacher assigns from the textbook a problem requiring the use of these journals: purchases, sales, cash receipts, cash payments, and general. Each student is given the assignment of keeping a specific journal and the group collectively completes the problem. Each group completes the problem five

times, rotating the journal assignments so that each student will have the experience of keeping each of the five journals

- 1 What advantages and disadvantages do you see in this plan?
- 2 If you were using the plan, how would you group your students?
- 3 How frequently would you use the plan?

SELECTED READINGS

Bennett, L. S. "Teaching Special Journals and Ledgers," *The Balance Sheet*, vol 35, pp 100-101, 109, November, 1953

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Freeman, M. Herbert "How to Teach Special Journals," *Business Education World*, vol 40, pp 12, 13, 30, January, 1960

Mayer, Forrest L. "Teaching Special Column Journals," *Business Education Forum*, vol 4, pp 17-18, December, 1949

Yale, Byron C. "The Transaction Approach to the Study of Bookkeeping," *Business Education Forum*, vol 10, pp 27, 34, May, 1956

Teaching Inventory and Prepaid Expenses Adjustments

BOOKKEEPING IS TAUGHT on what might be called an ever increasing spiral. First the bookkeeping cycle is completed on a very elementary basis. Each time through the cycle additional principles are presented and problems are especially designed to focus attention upon the applications of the new principles taught. A service type of business is generally used for the first cycle, thus the necessity of teaching adjustments is avoided. The next time through the cycle the merchandise inventory adjustments are introduced. The adjustments for the prepaid expenses of supplies and insurance are usually presented next, then the elements of depreciation and bad debts, and last of all the accruals. This chapter deals with the adjustments to the merchandise inventory and to the prepaid expenses. The following chapters discuss valuation accounts and accruals.

ADJUSTING MERCHANDISE INVENTORY

The problem of adjusting the merchandise inventory is one of bringing the merchandise inventory figure as recorded on the books into agreement with that of the physical inventory taken at the end of a fiscal period. The inventory may be adjusted by one of

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several different methods. Each method is first shown separately and then the three are combined for comparison purposes. In each method, the beginning inventory is \$2,300, the ending inventory is \$2,700, and the balance in the Purchases account is \$3,500.

Method 1 Closing the beginning inventory into the Purchases account and then recording the new inventory. The two entries needed are as follows:

<i>a</i>	Purchases	\$2,300	
	Merchandise Inventory		\$2,300
	To close the beginning inventory into the Purchases account		
<i>b</i>	Merchandise Inventory	2,700	
	Purchases		2,700
	To record the new inventory and to reduce Purchases to the cost of sales		

The effect of these entries is best seen by studying the accounts after they have been posted:

Merchandise Inventory		Purchases	
2,300	<i>a</i> 2,300	3,500	<i>b</i> 2,700
<i>b</i> 2,700		<i>a</i> 2,300	

The old inventory is balanced out and the new one is recorded in the Merchandise Inventory account. The Purchases account has debits for the amount of purchases and the old inventory and a credit for the amount of the new inventory. This leaves a new balance in the Purchases account equal to the amount of cost of goods sold. This balance is then transferred to the Profit and Loss Summary account, and the Purchases account is closed.

Profit and Loss Summary	\$3,100	
Purchases		\$3,100
To close the Purchases account and transfer the cost of sales to Profit and Loss Summary		

This method is relatively simple and advantageous in that it follows the same procedure as that normally followed on the profit

and loss statement (old inventory + purchases = cost of goods available for sale - new inventory = cost of goods sold) The chief weakness of this adjustment method is that, except for the amounts, the two entries are the reverse of each other. Sometimes students forget which entry is for the new inventory and which is for the old inventory and, therefore, get them backward. This reversal of entries will not, of course, leave a balance in the Purchases account equal to the cost of sales.

[illegible]

Method 2 Close both the beginning inventory and the amount of the purchases directly to the Profit and Loss Summary. The new inventory is recorded with a corresponding credit entry to the Profit and Loss Summary. These entries are as follows:

- | | | | |
|---|----------------------------------|---------|---------|
| a | Profit and Loss Summary | \$2,300 | |
| | Merchandise Inventory | | \$2,300 |
| | To close the beginning inventory | | |
| | into Profit and Loss Summary | | |
| b | Merchandise Inventory | 2,700 | |
| | Profit and Loss Summary | | 2,700 |
| | To record the new merchandise | | |
| | inventory | | |
| c | Profit and Loss Summary | 3,500 | |
| | Purchases | | 3,500 |
| | To close the Purchases Account | | |

The result of these three entries is the same as that under Method 1—the inventory account shows the present asset value, the Purchases account is closed, and an amount equal to the cost of goods sold is transferred to the Profit and Loss Summary.

The ledger accounts appear as follows

Merchandise Inventory		Purchases		P & L Summary	
2,300	a 2,300	3 500	c 3,500	a 2,300	b 2,700
b 2,700				c 3,500	
				(Balance is	
				cost of	
				goods sold	
				\$3,100)	

The work sheet appears thus

ACCOUNT TITLE	DEBIT	TOTAL B. LANCE		ADJUSTMENTS		PROFIT AND LOSS STA. SUMMARY		BALANCE SHEET	
		DEB	CRED	DEB	CRED	CTR	DEB	CTR	DEB
Merchandise Inventory	2,300			2,700	-				2,700
Purchases									
Profit and Loss Summary									

Method 3 *Adjusting the merchandise inventory by debiting or crediting for an amount sufficient to increase or decrease it to its true value* In our illustration, it would be necessary to increase the merchandise inventory by \$400 to bring it up to the amount of the current inventory. A Cost of Goods Sold account is set up and the entry would be.

a Merchandise Inventory	\$400	
Cost of Goods Sold		\$400
To bring the inventory to its true value		

This method requires a single entry to adjust the inventory. When the new inventory is larger than the beginning inventory, the Merchandise Inventory account is debited, when the ending inventory is smaller than the beginning, the Merchandise Inventory account is credited.

Next the Purchases account is closed into the Cost of Goods Sold account as follows:

b Cost of Goods Sold	\$3,500	
Purchases		\$3,500
To close the purchases into the Cost of Goods Sold account		

The ledger accounts are

Merchandise Inventory	Purchases	Cost of Goods Sold
$\begin{array}{r} 2300 \\ a400 \end{array}$	$\begin{array}{r} 3500 \\ 13500 \end{array}$	$\begin{array}{r} a400 \\ b3500 \end{array}$

The work sheet entries are

ACCOUNT TITLE	DEBIT	CREDIT	DEBIT	CREDIT	DEBIT	CREDIT	DEBIT	CREDIT	DEBIT	CREDIT	DEBIT	CREDIT
Cash												
Inventory												
Purchases												
Cost of Goods Sold												

The result of these two entries leaves a balance in the Cost of Goods Sold account. This balance is the cost of goods sold.

When the new inventory is larger than the beginning inventory as in our illustration above, the purchases and the inventory adjustment figures appear on opposite sides of the Cost of Goods Sold account. When the new inventory is smaller than the beginning inventory, the difference in the two inventory figures appears on the same side of the Cost of Goods Sold account as the purchases; thus:

Cost of Goods Sold

Amount of purchases	XXX
Amount the beginning inventory exceeds the ending	XXX

The three methods of inventory adjustment are contrasted in the chart shown on page 225.

TEACHING SUGGESTIONS

The suggestions discussed below should help the teacher in his teaching of adjustments.

1 Present only *one* way of adjusting merchandise inventory in a beginning bookkeeping class. When alternate ways are presented, the students are usually confused.

METHOD 1

Adjusting Entries

Purchases \$2,300
Mdse Inventory \$2,300

To close the beginning inventory into the Purchases account

Mdse Inventory \$2,700
Purchases \$2,700

To record the new merchandise inventory and to reduce Purchases to the amount of the cost of goods sold

Closing Entries

Profit and Loss Summary \$3,100
Purchases \$3,100
To close the Purchases account into the Profit and Loss Summary account

METHOD 2

Profit and Loss Summary \$2,300
Mdse Inventory \$2,300
To close the beginning inventory into the Profit and Loss Summary account

Mdse Inventory \$2,700
Profit and Loss Summary \$2,700
To record the new merchandise inventory

Profit and Loss Summary \$3,500
Purchases \$3,500
To close the Purchases account into Profit and Loss Summary

METHOD 3

Mdse Inventory \$400
Cost of Goods Sold \$400

To adjust the inventory to its present value

Cost of Goods Sold \$3,500
Purchases \$3,500

To transfer the amount of purchases to the Cost of Goods Sold account
Profit and Loss

Summary \$3,100
Cost of Goods Sold \$3,100
To close the Cost of Goods Sold account into the Profit and Loss Summary account

The teacher, of course, will wish to understand thoroughly the various methods of adjusting merchandise inventory, as such understanding will supply him with the necessary reserve of information to answer student questions. He should not, however, strive to develop this broad understanding in the average bookkeeping student. The more capable students, however, should be introduced to the various adjustment methods, this is one way of broadening the course.

The teacher usually explains the method of adjusting merchandise presented in the textbook used in the class. If the textbook presents one method and the teacher another, the teacher should supply his students with ample supplementary reference and practice material dealing with the method he has taught so that they will not need to use their textbooks for reference.

2 Emphasize *why* the merchandise inventory account must be adjusted. A review of the method of figuring profit would be appropriate as an introduction to the merchandise inventory adjustment. This review may start with a service type of business and the profit and loss statement for such a business. The illustration may then be shifted to a trading type of business and thus introduce merchandise inventory into the profit calculation. A simple illustration such as a school club selling school supplies is an appropriate introduction.

3 Limit the first adjusting entry to the merchandise inventory adjustment. If other adjusting entries are introduced concurrently with the merchandise adjustment, the learning problem is greatly compounded. After students have developed an understanding of the merchandise adjustment, they can proceed to consider other adjusting entries and will have a basis for understanding these entries.

4 Introduce the adjusting entries through the T account and not through the work sheet. Adjusting entries are necessary to bring about desired changes in ledger accounts. Therefore, students should first see these entries in terms of the ledger accounts.

5 Provide plenty of practice. Once or twice through adjustments will not be sufficient for most students. To obtain the necessary practice the students need not complete the bookkeeping

BEGINNING INVENTORY

○	○	○
○	○	○
○	○	○

+

PURCHASES

TOTAL GOODS AVAILABLE FOR SALE

=

○	○	○		
○	○	○		
○	○	○		

ENDING INVENTORY

○	
○	
○	

=

GOODS SOLD

○	○	
○	○	
○	○	

Visualizing the Procedure for Determining Goods Sold

cycle for each problem. A number of work sheets including trial balance figures may be provided and the students requested to make the adjusting entries.

6 To keep the arithmetic simple, use round numbers. If a student becomes involved in the mathematical process, his attention

may be diverted from the principle being taught. The latter is the more important at this stage of the learning process.

ADJUSTMENTS FOR PREPAID EXPENSES

A mixed account is one whose balance does not wholly represent an asset, a liability, proprietorship, income, cost, or expense. A part of the balance of a mixed account represents one type of account and the remainder another type of account. For example, the balance in the supplies account is the total amount of supplies purchased. That part which is still on hand is an asset while the part that has been used is an expense. Likewise, the balance shown in the insurance account is the total amount of insurance purchased during the period. A part of that insurance has expired and is therefore an expense, while that which has not expired has value and is an asset. Mixed accounts need to be "unmixed" at the end of the fiscal period by being separated into their different elements.

Mixed accounts are usually part asset and part expense, or part liability and part income. To adjust these accounts, one of the following must be done:

- Remove the expense part from an asset account
- Remove the asset value from an expense account
- Remove the income part from a liability account
- Remove the liability part from an income account

Transactions are usually recorded in mixed accounts on the following bases:

<i>Assets</i> or <i>Liabilities</i>	{ When the life of the goods or services received or given extends into another fiscal period (No reversing entry is needed when these accounts are adjusted) ¹
<i>Income</i> or <i>Expenses</i>	{ When the life of goods or services received (or given) normally lasts for a period shorter than a fiscal period (When these accounts are adjusted at the end of the fiscal period, reversing entries are required)

¹ Reversing entries are discussed in Chapter 17

Basic Procedure for Teaching Adjustments The teaching of adjustments consists of three distinct problem areas

- 1 Developing readiness on the part of the students
- 2 Mastery of the arithmetic processes involved
- 3 Presentation of the bookkeeping principles involved

The mastery of each area prepares the way for the next phase

Developing bookkeeping readiness Frequent references are made to reading readiness and arithmetic readiness of students. What about bookkeeping readiness? Do teachers of bookkeeping assume that their students are *ready* for any new principle which may be "thrown at them"?

Freeman says

Bookkeeping teachers are usually so concerned about teaching their students how to make bookkeeping entries that often they overlook many of the more important objectives which can be achieved in the elementary bookkeeping class. In actual practice the entry itself is the simplest part of the whole business transaction. The largest amount of time and energy is generally spent in getting ready to make the entry.

In the teaching of adjustments, particularly, some readiness preparation is needed. The best way to begin a discussion of adjusting the insurance account, for example, is not that of showing the students *how* it is done. Rather, it is better to begin by showing *why* an adjustment is needed. Some of the questions that may help prepare students for their study of insurance adjustments are

- 1 What is insurance?
- 2 What kinds of insurance protection does a business need?
- 3 How is insurance purchased—that is, for what period?
- 4 Why does the insurance account in the ledger need to be adjusted?

These same questions need to be answered for the adjustment of supplies and for the recording of depreciation, bad debts, and accrued items.

Naturally, this background information discussion should begin

² M. Herbert Freeman, "What Is the Relation Between Business Arithmetic Instruction and Bookkeeping Instruction?" *Business Education Forum*, vol. 8, p. 9, December, 1953.

as nearly as possible at the student's level of understanding and experience. When insurance is being studied, for example, the discussion might begin on the topic of automobile insurance. Generally, several class members will own cars and will have had some experience with automobile insurance. From the discussion of automobile insurance other types of insurance carried by business may be explained. Methods of payment for insurance may be presented.

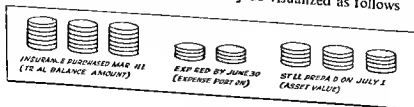
Understanding the arithmetic processes. Students will more readily master the bookkeeping principles after they have studied the arithmetic involved. Using the example of insurance, here are some sample problems:

- 1 If the annual premium for fire insurance is \$60, how much does the insurance cost for one month? for one quarter? for a half year?
- 2 If a one year insurance premium of \$18 was paid on March 1, what part of that premium has expired on June 30? What part of that premium is still prepaid on July 1?
- 3 If a business buys insurance in the amounts and on the dates given below find the asset value of the prepaid insurance on December 31 and the amount of the expense representing expired insurance on that date.

One year's premium of \$48 paid on April 1
 Three years' premium of \$90 paid on August 1
 One year's premium of \$36 paid on November 1

The first problem is somewhat simple. Each of the other problems is more difficult than the preceding one. Each one will need to be explained and worked in class with the students, followed by drill in class and in the homework assignment.

Many high school students are weak in arithmetic—weak in ability and in interest. To help them overcome this weakness, visualization may be used. For example, in the second insurance problem the asset amount (two thirds of \$18, or \$12) and the expense amount (one third of \$18, or \$6) may be visualized as follows:



Presenting the bookkeeping principles After the arithmetic process has been explained, students should understand that the *balance of the Prepaid Insurance account as shown on the trial balance, includes both an asset value and an expense value*. This may be visualized in the T account as follows

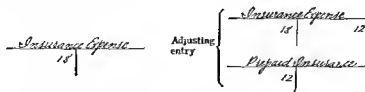


When this understanding is reached, the next task is that of separating those two elements. The students are now ready to make the adjusting entry. If insurance is recorded as an asset when it is purchased, the adjusting entry will be

Insurance Expense	\$6
Prepaid Insurance	\$6

The adjusting entry removes the expired element from the account and leaves the asset balance ³

Under the expense method, Insurance Expense is debited when the insurance is purchased. At the end of the fiscal period the amount that is unexpired is determined and transferred to the Prepaid Insurance account, which is set up for this purpose. The expense account, Insurance Expense, is credited and the asset account, Prepaid Insurance, is debited.



This entry requires the following reversing entry at the beginning of the new fiscal period

³ Some teachers refer to **mixed** accounts as **impure** accounts that is accounts which are neither pure assets nor pure expenses. The adjusting entry removes the impure element. If the account is an asset account (*Prepaid Insurance*) the foreign or impure element is the expense element. The adjusting entry removes the foreign element and thus purifies the accounts.

<i>Enter supplies etc.</i>	
15	12
<u>15</u>	<u>6</u> ← (Debited to P & L
12	<u>12</u> Summary in closing entry)
<i>Expired Insurance</i>	
12	12

Reversing entry

Use Full Explanation When goods are sold for cash, the asset account Cash is debited and income account Sales is credited—the only explanation needed is "Sold merchandise for cash." However, in adjusting entries the explanations, "To adjust the Supplies account," and "To adjust the Prepaid Insurance account" do not say very much. It is not possible to obtain information from these explanations that will help determine the accounts to be debited and credited or whether the entry has been entered correctly. Consider these fuller explanations:

To record the expense resulting from expired insurance and to reduce the asset account Prepaid Insurance to its true value

To record the expense resulting from the use of supplies and to reduce the asset account Supplies to its true value

These explanations indicate exactly what needs to be done. From them one can tell which accounts should be debited and which should be credited.

What is the value of full explanations? This question can be answered by a consideration of the errors commonly made in the recording of the above adjustments. One of the most common errors made in the adjusting of insurance and supplies is to debit and credit the correct accounts but to use the incorrect amounts—the amount of the insurance still prepaid and the amount of the supplies inventory. There is nothing in the explanation "To adjust the Insurance account," that would help the student catch this error. However, the full explanation used states specifically, "To record the expense resulting from expired insurance." *The student then knows that he is recording an expense, not an asset.*

Write the Explanation First This is a corollary to the first suggestion. Because the explanations are complete and aid the students

in determining what is to be done, they find it helpful if they write the explanations first (The explanation is written in the customary place, of course, and blank lines are left above the explanation for writing in the names of the accounts to be debited and credited) First, the student writes this full explanation then from it, he determines the accounts to be debited and credited and fills in the entry

Some teachers contend that the explanations for adjusting entries should be omitted entirely because in business they are frequently omitted This contention overlooks the chief difference between the student in a beginning bookkeeping class and the accountant in an office The accountant has the benefit of much study and he may have had considerable experience The beginning student needs all the help he can be given He may some day reach the point where he too can eliminate explanations Give him all the help possible as he tries to learn each new bookkeeping principle *for the first time*

The Key to Understanding The key to mastery of the principle of the adjustment of prepaid items is an understanding that the *account balance* as it appears in the ledger and on the trial balance (before adjustments) contains *two elements* After the account balance is divided into two parts the student identifies each one, determining which part is the asset and which is the expense Until the student reaches this point, he is not prepared to make the journal entry with understanding He may *copy* the entry from the example in the textbook but he does not really understand what he is doing

The procedure explained here differs from that used by many bookkeeping teachers in that it reverses the normal teaching procedure Instead of starting with the bookkeeping entry, the procedure finishes with it The suggested procedure does not teach first how an entry is made and hope that understanding will come later Instead, it teaches for understanding first, as a result the students know how to make the entry

Other features of this procedure are (1) the presentation of the arithmetic processes needed before the bookkeeping entry, (2) simplifying the arithmetic through the use of visual aids and (3) introducing each new topic at the students' level of understanding and experience

Adjusting Supplies The Supplies account may be adjusted by one of two methods

Asset method The simplest method of adjusting supplies is by what is known as the asset method, as no reversing entry is required. Under this method supplies are recorded in an asset account at the time of purchase. At the end of the fiscal period the amount of the supplies used is removed from the Supplies account and entered in an expense account—usually called Supplies Expense. The entry, of course, is a debit to the expense account, and a credit to the asset account, for the amount of the supplies used.

Since no record is kept of supplies used, this figure must be obtained by subtracting the amount of the supplies inventory from the balance in the supplies account. The supplies inventory is usually taken by inspection rather than by actual count.

Expense method Under the expense method, supplies are entered in an expense account when they are purchased. At the end of the fiscal period this account is credited for the amount of the unused supplies and an asset account Supplies Inventory is set up. When this procedure is followed, the adjusting entry is reversed at the beginning of the next fiscal period.

These two methods are shown in contrast on the following page

Adjustments on Work Sheet These adjustments should be shown on the work sheet as illustrated below. In demonstrating on

[illegible]

ASSET METHOD

EXPENSE METHOD

(When Supplies Are Purchased)

a	Supplies				
	Cash	\$36		Supplies Expense	\$36
	Bought supplies for cash			Cash	\$36
				Bought supplies for cash	
b	Supplies Expense	\$21		Supplies Inventory	\$15
	Supplies		\$21	Supplies Expense	\$15
	To record the expense resulting from supplies used and to adjust the Supplies account to its true asset value			To record the supplies inventory and to adjust the Supplies Expense to the amount of the supplies used	

(Closing Entry Needed at End of Fiscal Period)

c	P & L Summary	\$21		P & L Summary	\$21
	Supplies Expense		\$21	Supplies Expense	\$21
	To close the Supplies Expense account into the summary account			To close the Supplies Expense account into the summary account	

(Reversing Entry Required at Beginning of Next Fiscal Period)

d	No reversing entry needed			Supplies Expense	\$15
				Supplies Inventory	15
				To close the Supplies Inventory account and to transfer the amount of the supplies on hand to the Supplies Expense account	

the chalkboard the teacher should use colored chalk for all adjustments

VISUAL AIDS

The teacher will find the following visual aids helpful in teaching the adjustments discussed in this chapter

Wall Charts Bookkeeping Wall Chart No. 5—Adjusting the Ledger George F. Cram Company, Inc.

Field Trip A trip to a store when the merchandise inventory is being counted would greatly enrich this chapter. In addition to observing the inventory taking procedure, students would acquire insight into the importance of the merchandise inventory adjustment.

*Dramatize Deferrals** Use three empty typewriting paper boxes with the cost lettered on the side of each box so that it can be seen easily from any part of the room.



1 Illustrate on the chalkboard the recording of the purchase of the paper. Show the entry in T accounts.

<i>Office Supplies</i> <hr/> 15	<hr/> <i>Cash</i> 15
------------------------------------	-------------------------

2 Remove one box so that only two remain. Explain that the box removed has been used during the operation of the business.

3 Point out that although only two boxes of paper worth \$10 are on hand, the asset account Office Supplies still shows ownership of \$15 worth of paper.

4 Show in T accounts how the asset account would be decreased and the expense account established to record the paper used.

<i>Office Supplies</i> <hr/> 15	<hr/> 5	<i>Office Supplies Expense</i> <hr/> 5
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* Adapted from Gilbert Kahn, *Dramatizing Deferrals Decreases Difficulty*, *Business Education Forum*, vol. 10, pp. 14-15, December 1955.

PROBLEMS, QUESTIONS, AND PROJECTS

1 Which of the three methods of adjusting inventories, as explained in this chapter, do you prefer to use for high school students? Give reasons for your choice. Would your answer be any different if you were teaching college students? If so, in what way?

2 How would you develop bookkeeping readiness for the teaching of the inventory adjustments? of supplies?

3 How can we use business experiences of students in the teaching of inventory, insurance, and supplies adjustments?

4 Why is the asset method of adjusting prepaid expenses easier to teach than the expense method? What advantage does the expense method have over the asset method?

5 Prepare a visual aid for the teaching of one of the topics discussed in this chapter

CASE PROBLEMS

1 After completing the unit on prepaid expenses, the bookkeeping teacher gave a test. The test required the adjustment of the prepaid insurance account. Upon examining the test papers, the teacher found that all members of the class had correctly debited Insurance Expense and credited Prepaid Insurance. However, more than half of the students had used the wrong amount. They had used the amount of the unexpired insurance instead of the expired insurance.

What remedial work would you suggest? Explain in detail how this remedial instruction would be presented.

2 Frank Hale, a bookkeeping teacher, presents all adjusting entries (merchandise inventory, prepaid items, and accrued items) at one time and not by what he calls the piecemeal method. Mr. Hale uses the following arguments for this method:

- a The principles of adjusting entries are common for all adjusting entries.
- b His major interest is to develop an understanding of the principles.
- c The piecemeal method encourages students to memorize the entries as opposed to understanding the principles.
- d Once the student understands the basic principles, he can apply them to any adjusting entry, so there is no reason to parcel them out.
- e He has tried his method with most satisfactory results.

automobile To introduce the topic, the teacher may use a section of the local newspaper advertising used cars Because of the special interest of high school youth in automobiles, this example will produce a lively discussion When appropriate, the teacher should direct the discussion to other common items—bicycles, typewriters, refrigerators,

59	DODGE	\$2200
58	DELCO	\$1850
57	FORD	\$1450
56	DODGE	\$950
55	3 Door	\$825
54	MERCUY	\$775
53	LINCOLN	\$300
52	CADILLAC	\$500
51	4 Door	\$150

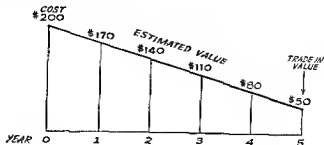
**WHY ARE
OLDER
CARS
WORTH LESS?**

A Bulletin Board Display That May Be Used to Introduce Depreciation

erators, furniture, and houses The depreciable assets of a specific business with which all students are familiar, such as the corner grocery store, can then be discussed The following questions should be covered in the discussion

- 1 What is depreciation?
- 2 What factors cause depreciation? Are these factors the same for all items?
- 3 Do all items depreciate? What kind of items depreciate?
- 4 What depreciable items does a family own? What depreciable items may a business own?
- 5 Why do some items depreciate more than others?
- 6 Why is depreciation an expense?

Calculating Depreciation In addition to showing on the chalkboard how depreciation is calculated, the teacher can visualize the process through the use of a chart like the one shown on page 241 A number of problems should be worked on the chalkboard and visualized, to make certain that the students understand the arithmetic involved in the straight line method



Visualizing Depreciation of Typewriter

Since some students have been schooled in the use of the formula in all mathematical computations, it is recommended that the straight line formula be presented and explained

$$\frac{\text{Cost} - \text{trade in value}}{\text{Estimated useful life (in years)}} = \text{Annual depreciation}$$

The students may then be assigned a series of problems such as the following

A typewriter which cost \$153 was purchased on July 1. It is estimated that the machine may be used for three years and then traded in on a new one. The trade in value is estimated to be \$45. What is the amount of depreciation on this machine on December 31 following the date it was purchased?

A machine costing \$650 and with installation expenses of \$70 has an estimated useful life of 5 years and no scrap value. What is the amount of depreciation on this machine for a six month period?

The question arises as to whether other methods of calculating depreciation, in addition to the straight-line method, should be presented. The fact that there are other methods certainly should be mentioned. However, to explain two or more methods at this point might be confusing. Later in the course, the teacher may wish to present other methods and encourage some of the better students to do library study and prepare papers presenting the pros and cons of various methods.

Need for Recording Depreciation Before presenting how depreciation is recorded, the teacher should discuss the importance of

recording it. He may do this by placing on the chalkboard (or by distributing duplicated copies) a balance sheet and a profit and loss statement. The balance sheet should include several depreciable assets such as delivery equipment and office equipment, but should contain no depreciation items. The teacher raises the question as to whether the financial statements are correct. What figure is shown for delivery equipment on the balance sheet? Where was the figure obtained? Is it the cost value or the estimated present value? If the value of the business assets have decreased because of depreciation, is the profit as shown on the profit and loss statement correct? The class discussion can be directed to bring out the following points if depreciation is not recorded:

- 1 The balance sheet will be incorrect
 - a The value of those assets that depreciate will be overstated
 - b The total assets will be overstated
 - c The capital will be overstated
- 2 The profit and loss statement will be incorrect
 - a The total operating expenses will be understated
 - b The net profit will be overstated (or the net loss understated)

Recording Depreciation A T account may be set up on the chalkboard for one of the asset accounts on the balance sheet that the students identified as having depreciated in value. The Delivery Equipment account might be used for the illustration. (In the presentation planning the balance in the Delivery Equipment account on the balance sheet should show an amount representing the approximate cost of one delivery truck.) A procedure such as the following might be observed:

- 1 Review the entry recording the purchase of the delivery truck shown as Delivery Equipment on the balance sheet

Cash		Delivery Equipment	
Jan 1	4 000	Jan 1 Truck	4 000

- 2 Explain that the truck was purchased exactly one year ago and that it is expected to have a trade-in value of \$1 200 after four years of

use Have the class determine the depreciation and estimated value of the truck at the end of the first year of operation (current date)

3 Through class discussion develop the entry that should be made at the end of the year to record the depreciation expense Make the entry first in T accounts, and then show the journal entry

Depreciation Expense on Delivery Equipment	\$700	
Allowance for Depreciation of Delivery Equipment		\$700
To record annual depreciation expense on delivery equipment		

(The term 'reserve' is sometimes used instead of 'allowance,' although "allowance" is the more modern usage)

Several questions may come up in the discussion

1 Should Depreciation Expense or Allowance for Depreciation on *Delivery Equipment* be debited? To answer this question the teacher may point out that depreciation on delivery equipment is usually considered to be a selling expense while depreciation on office equipment is regarded as a general expense For this reason it is preferable to use separate depreciation expense accounts for each type of asset and not one expense account for all depreciation expenses

2 Why is the credit for the depreciation not placed directly into the asset account instead of establishing a separate Allowance for Depreciation account? ¹ The usual explanation is that the cost of an asset is a fact, whereas the depreciation is an estimate and is therefore kept separately Another important reason is that the use of the separate allowance account serves to show more information in the balance sheet in that both the original cost of the asset and the total allowance for depreciation are given The class may be asked the question If they were owners of businesses would they prefer to know only the balance or both the cost figure and the total allowance for depreciation?

3 Is the allowance for depreciation money set aside to replace the equipment? To most students an allowance is a stipulated

¹ Some teachers illustrate the first depreciation entry by recording the depreciation directly in the asset account and introducing the allowance account in a later lesson This plan requires some reteaching and most teachers think it is unnecessary

amount of money which they receive regularly from their parents. Students are therefore prone to think that Allowance for Depreciation is actual money or funds set aside or earmarked for the replacement of equipment. The teacher will need to explain the specific meaning of the term "allowance" as used in bookkeeping.

It is important to emphasize that the valuation account represents the credit side of the equipment account and that the two accounts are, in a sense, inseparable. The allowance for depreciation account remains on the books as long as the equipment is owned, and when the equipment is sold the account is closed. One practice that has proved helpful is to draw a circle around the two accounts indicating that they go together.

Effect of Depreciation on Statements Although the depreciation expense accounts are closed at the end of the fiscal period, the allowance for depreciation accounts are not. The depreciation expense account is a temporary proprietorship account, just as any other expense account, but an allowance for depreciation account is a *negative asset* or *minus asset* account. Since the account is a minus asset, the rule for debit and credit is just the opposite of that for a positive asset—it is credited for increases and debited for decreases. It is called a *valuation account* because it determines the value of the asset.

It is always helpful to the student to see the whole picture. Therefore, the position of the depreciation allowance account in the ledger, on the balance sheet, and on the work sheet should be shown. The placement of the depreciation expense account on the profit and loss statement must also be shown. Textbook illustrations may be used for this demonstration, special charts may be prepared, or the chalkboard may be used.

Delivery Equipment

Debited for the cost price at the time it is purchased	Credited when the equipment is discarded or sold
--	--

Allow for Depr of Del Equip

Debited when the equipment is discarded or sold	Credited for estimates of the decrease in value resulting from depreciation
---	---

The students should be directed to observe that the valuation account in the ledger always follows immediately the corresponding asset account. This order is also followed on the balance sheet.

BAD DEBTS

Some of the questions that should be answered in the teaching of bad debts are the following:

Background Information

- 1 Why do we have such an expense as bad debts?
- 2 How do businessmen keep bad debts expense at a minimum?
- 3 How does the local credit association work?
- 4 How do businessmen calculate their losses from bad debts?

Bookkeeping Principles

- 5 How is bad debts expense recorded?
- 6 How is a particular account written off when it becomes uncollectible?
- 7 How is a collection of an account previously written off recorded?
- 8 How does this adjustment affect the work sheet and the financial statements?

Introducing Bad Debts In almost every class there will be one or more students who have had paper routes. These boys know what it means to fail to collect from some of their customers. Here is a possible beginning that is based on the previous knowledge and experience of the students:

Another possible opening is to display a balance sheet to the class. The teacher may begin by pointing to the first asset listed, Cash, and ask if the cash figure represents its true value. Students will readily volunteer that, if the books have been kept correctly, the value of cash is the amount stated on the balance sheet. The teacher may then point to **Accounts Receivable** and ask what its true value is. The discussion will bring the class members to the realization that since all accounts receivable may not be collected, the **Accounts Receivable** account may not be worth the amount shown in the ledger. The need for some method of decreasing the accounts receivable figure to its *real asset value* is thus developed. To help de

velop the desired understanding of adjustment for bad debts, the teacher may use an example such as the following

Suppose that you have an agreement with ten of your neighbors to cut their lawns regularly in return for a stated sum of money. Let us assume that you service each yard once each week and customarily collect on Monday evenings. On a particular Monday evening you discover that one of your customers Mr. King moved away during the week end without leaving any forwarding address. If it is not possible to locate him, the amount he owed becomes a loss. *Although the money was never collected, it was earned*—in this case it was earned the day the yard was mowed and trimmed.

In business it is customary to record income from sales at the time the sales are made. During the same week that the ten yards were cut, this income earned would have been put on the books. Since this is true, the loss that resulted when it became obvious that collection would never be made belongs to that period during which the income was recorded. Therefore, it has become customary to record estimated bad debts losses at the end of each fiscal period.

Recording Bad Debts The procedure for recording estimated losses on bad debts and the writing off of accounts might be explained by the teacher as follows:

Estimating Bad Debt Losses Any business can, by keeping records of its losses from bad debts, determine the amount of such losses for any given period. Let us assume that experience has shown that a particular business firm loses on the average an amount equal to 2 per cent of its accounts receivable. If the amount of the accounts receivable at the end of a fiscal period is \$4 000, we know that approximately \$80 of that total will never be collected.

Had you known that your neighbor, Mr. King, would move without paying, you would never have cut his lawn in the first place. But you did not know that. Likewise, a business does not know which customers will not pay. Had they been known, they would not have been extended credit in the first place. Therefore, a temporary account usually called Allowance for Bad Debts is opened in which this \$80 is recorded. As each particular account is determined to be worthless, it is written off and an amount equal to its balance is deducted from the balance of the temporary account Allowance for Bad Debts.

Recording bad debts expense The entry to record bad debts expense at the end of the fiscal period would be

GENERAL JOURNAL					Page 2	
DATE	ACCOUNT TITLE AND EXPLANATION	POST REF	DEBIT AMOUNT	CREDIT AMOUNT		
Jan 10	Bad Debts Expense		16.50			
	Allowance for Bad Debts			16.50		
	To record bad debts expense of 2 percent of accounts receivable					

Writing off bad debts From time to time, a businessman concludes that a particular account cannot be collected. The account is then declared to be a bad debt and is written off the books as follows

GENERAL JOURNAL					Page 2	
DATE	ACCOUNT TITLE AND EXPLANATION	POST REF	DEBIT AMOUNT	CREDIT AMOUNT		
Sept 10	Allowance for Bad Debts		16.50			
	Benny Adams			16.50		
	To write off Benny Adams account as worthless and to reduce Allowance for Bad Debts by an amount equal to the balance of his account					

When an account previously written off is later collected, the asset Cash is increased and the Allowance for Bad Debts is restored. The entry would be

GENERAL JOURNAL					Page 2	
DATE	ACCOUNT TITLE AND EXPLANATION	POST REF	DEBIT AMOUNT	CREDIT AMOUNT		
Nov 10	Cash		16.50			
	Allowance for Bad Debts			16.50		
	The account of Benny Adams, previously written off as worthless, has now been collected					

* This entry would normally be recorded in the cash receipts journal. To simplify the presentation however the teacher should use the general journal form in his explanation and demonstration.

When Mr. Adams's account was written off as worthless, a note was made in the explanation column of the entry in his account indicating that it was written off as a bad debt. Otherwise the assumption would

be that it had been paid. Therefore, now that the account has been collected, this fact should also be entered in his account in the ledger.

Some accountants prefer to reopen the closed account and then to record the cash collection as follows

GENERAL JOURNAL

Page 2

DATE	ACCOUNT TITLE AND EXPLANATION	DEBIT AMOUNT	CREDIT AMOUNT
Jan 1	Accounts Rec. - Henry Adams		16.50
	allowance for Bad Debt		16.50
	The account of Henry Adams		
	previously written off as worth		
	less has been determined to be		
	collectible		
	Cash	16.50	
	Accounts Rec. Henry Adams		16.50
	Collected the Henry Adams		
	account		

* This entry would normally be recorded in the cash receipts journal. To simplify the presentation, however, the teacher should use the general journal form in his explanation and demonstration.

The posting of these two entries puts the proper credit information in the accounts receivable ledger.

Bad Debts and the Financial Statements The teacher will explain that the Bad Debts Expense account is closed just as are all other expense accounts. It appears on the profit and loss statement with the other expenses—it is generally considered to be an administrative expense, not a selling expense.

Allowance for Bad Debts is another of the *valuation accounts*. It is a *negative asset account* and appears on the balance sheet immediately following Accounts Receivable as a deduction in the accounts receivable as follows

Current Assets	
Cash	
Accounts Receivable	1,111.00
Less Allowance for Bad Debt	50.00
Miscellaneous Inventory	1,061.00

In teaching any new principle, the teacher should be careful to explain the rules of debit and credit applying to new accounts and

their place on the financial reports. The adjustment on the work sheet should also be shown. To focus attention on the particular entry, the adjustment on the work sheet may be written with colored chalk and all other items written in white.

PROBLEMS, QUESTIONS AND PROJECTS

- 1 What is the meaning of the term 'valuation account'?
- 2 Since detailed records are kept on each individual piece of equipment in the fixed assets register, why would it not be desirable to have only one Fixed Assets Account in the ledger?
- 3 What common points exist in depreciation and insurance expense?
- 4 What are some of the reasons why a few persons do not pay their just debts?
- 5 Do you think that you could justify, as background information in the teaching of bad debts, a brief explanation of the role credit plays in American business?
- 6 If a student asked why Accounts Receivable is not credited instead of Allowance for Bad Debts, how would you answer him?
- 7 Which of the following accounts are closed at the end of the fiscal period and why—Depreciation Expense, Allowance for Depreciation, Bad Debts Expense, Allowance for Bad Debts? Why are not the other accounts also closed?
- 8 What common points exist in depreciation and bad debts?
- 9 In your opinion, what is the key to the students' understanding and mastery of the topic of depreciation? bad debts?

CASE PROBLEMS

1 One high school teacher introduced the topic of depreciation by accompanying his class to a parking lot. He had previously selected three automobiles of different makes and models. Each student was asked to estimate the present value of each of the three cars. The class then returned to the classroom, calculated the value of each car (average of all students' estimates), and figured the annual depreciation of each. (The age and cost price of each car had been determined earlier.)

What is your opinion of this teacher's procedure? Do you think that a teacher can justify taking the time required for this method? Do you think that one of the cars should be a current year model to emphasize that time as well as use is a factor in depreciation?

2 One bookkeeping teacher introduced her students to the topic of

depreciation by bringing to class a new dress and one that was out of style, a pair of new skates and a worn out pair, a new book and a used one. She displayed each set of articles, then asked the class what the differences in the two articles were and why there was so much difference. What do you think of her presentation? Does it bring out the fact that depreciation results from both time and use?

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CHAPTER 17

Teaching Accruals and Reversing Entries

ACCRUALS

ONE OF THE MISTAKES most commonly made in the teaching of accruals is the failure to clarify the meaning of *accrued*. Teachers proceed with an explanation of how accruals are handled, assuming that their students know the meaning of the terms they use.

A group of fifty college seniors who were studying methods of teaching bookkeeping and accounting were asked if the word "accrue" was in their vocabularies at the time the principle of accruals was first presented to them in a bookkeeping or accounting class. Of that group only two students answered in the affirmative. The group was then asked if their teachers explained the meaning of the term to them. Only one student replied that his teacher had.

Teachers should always be sure to define new terms when they are first introduced. The teaching of accruals is one instance in which such a practice will pay dividends.

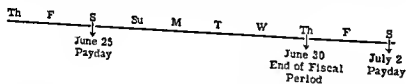
Introducing the Lesson. Accruals can be introduced without the use of the word "accrued" until after the students understand the principle involved. Note the following example:

Mr. Adams operates a novelty shop. He employs two salesclerks whose combined salaries total \$144 for a six day week. On Saturday, June 25, he paid the clerks and entered the transaction in his cash pay

ments journal by debiting Salaries Expense for \$144. The following week payday fell on July 2, and normally Mr. Adams would again pay them the week's salaries totaling \$144. However, the fiscal period ended on Thursday, June 30. Would Mr. Adams pay his salesclerks twice that week, once on Thursday and again on Saturday, or would he just wait and pay them on Saturday as usual?

The end of a fiscal period has no significance to employees other than those who keep the bookkeeping records and prepare the financial reports. Most employees are not concerned with "fiscal periods." Certainly they would not expect to be paid on Thursday. Neither would the owner want to prepare two payrolls for one week. Thus the correct answer is that he would pay them only on Saturday. The class members will, in all probability, give this answer.

Notice that the \$144 for the week ending July 2 involves expenses for two different fiscal periods, the salaries for Monday through Thursday are an expense of the fiscal period ending Thursday, June 30, and the salaries for Friday and Saturday represent an expense that should be charged against the new fiscal period which began on July 1. This condition is illustrated by the following diagram:



How much of the week's salary expense should be charged against the first fiscal period? (*Answer* \$96) How much should be recorded in July? (*Answer* \$48)

Is it possible to record an expense on July 2 in such a way that it would be charged against the fiscal period ended June 30 and would affect the profit for that fiscal period?

The answer, of course, will be "no," because the books have been closed, all expense accounts have been closed, and the profit has already been determined.

Would it be correct then, to charge all this expense against the new fiscal period when two-thirds of it was incurred in the previous fiscal period?

Should some student suggest that the amount does not represent very much money and it therefore would not make much difference how it was handled, the teacher can explain that this same problem would exist in a factory where the payroll amounts to thousands of dollars weekly. He can also mention that there are many other items which are paid for at a time other than that in which the expense is incurred, such as taxes, utility services, and interest.

Since it would not be correct to charge all this week's salary expense against the new fiscal period and since it is not possible to make an entry on July 2 that will affect the expenses of the previous fiscal period, when must the entry be made to get the \$96 recorded at the proper time?

Some student will probably suggest that this should have been done on June 30.

When the teacher uses an introduction such as this example, the class members see the need for adjusting entries for the recording of accrued incomes and expenses. Now that they see the need they are ready to learn how such entries are made. They want to know how to make the entries and will listen attentively to an explanation of the solution to the problem.

Recording Accruals To explain how accruals are recorded, two accrued expenses, Accrued Salaries Payable and Accrued Taxes Payable, and one accrued income, Accrued Interest Receivable, will be used.¹

Accrued salaries payable The amount of the salaries expense to be recorded on June 30 is \$96. This can be debited to the Salaries Expense account. Since these salaries have not yet been paid and will not be paid until Saturday, July 2, they are owed and the liability is recorded by crediting the account *Accrued Salaries Payable*.

The entry is as follows:

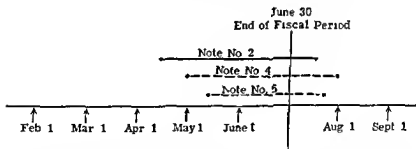
Salaries Expense
96

Accrued Salaries Payable
96

¹ Most textbooks include the word *accrued* in the titles of these liability accounts. However, many teachers prefer the simpler account titles: Salaries Payable, Taxes Payable, and Interest Receivable. The key word in the account titles is *payable* or *receivable* because it clearly shows the classification of the account.

Notes Received							
A year No. 4							
DATE	EXPLANATION	POST REF	DEB AMOUNT	DATE	EXPLANATION	POST REF	CREDIT AMOUNT
Apr 1	To 1 Bkny 65	94	7.6	May 1	Coll 2nd	14.6	7.6
6	To 2 Bkny 45	94	6.0	June 20	Coll 2nd	18.7	9.6
30	To 3 Bkny 55	94	1.25	29	Coll 2nd	18.7	1.25
May 1	To 4 Bkny 45	95	9.25				
16	To 5 Bkny 65	95	9.25				
20	To 6 Bkny 75	95	9.00				
July 1	To 7 Bkny 65	95	1.25				
15	To 8 Bkny 65	97	1.50				

on the other three notes (No 2, No 4, and No 5) but this interest will not be collected until the notes fall due and are paid by their makers, which will be during the following fiscal period This condition can be shown by a diagram



Students find explanations to be rather vague when they do not fully understand the meaning of the amounts being used when recording bookkeeping entries. Accrued interest is a good example. To tell the students that the accrued interest is a certain amount may have little meaning to them. However, by using a Notes Receivable account in which several notes are recorded, and by actually calculating the amount of interest that has been earned on each note, the students see what is meant by accrued interest.

The interest that has been earned on notes No 2, No 4, and No 5 should be reported as income for the fiscal period ended June 30 rather than during the following period. In other words, the in-

come should be recorded during the period in which it was earned not during the one in which it is collected. Note No. 2 has earned \$5 interest from its date of April 16 to June 30, a period of 75 days, note No. 4 has earned \$6 by June 30, and note No. 5 has earned \$3. This makes a total of \$14 ($\$5 + \$6 + \3) interest which has been earned but not collected. The income from interest earned is recorded by crediting the Interest Income account. Since the interest has not been collected, it is owed by the signers of the notes. The interest is therefore an asset (a receivable) and is recorded by debiting the asset account Accrued Interest Receivable. The entry would be

<u>Dissect & Contrast Personal</u> <div style="text-align: center;">14</div>	<u>Dissect & Contrast</u> <div style="text-align: right;">14</div>
---	---

The journal entry is shown here

[illegible]

The examples given were based on a fiscal period ending June 30 rather than December 31 to avoid the complication which arises because January 1 is a holiday. The January 1 date is especially confusing in the explanation of reversing entries. If June 30 has been used for the adjusting entries, the discussion of reversing entries can be built upon the same examples. This makes it easier to understand the principles related to reversing entries because the students are already familiar with the basic adjusting entries.

Teaching Suggestions The understanding of accruals may be simplified for students by relating accruals to a principle with which the students are already familiar. Accruals may be related to the buying of supplies or to the selling of services on credit. Students know that a purchase of supplies on credit results in a debit to the expense account Supplies Expense and a credit to the liability account Accounts Payable.

Supplies Expense 100

Accounts Payable 100

The sale of services on credit results in the following entry

<u>Accounts Receivable</u>	<u>Sales</u>
200	200

These entries review the principles that debts for items received but not paid for are recorded as credits—as payables, and that amounts earned but not received are recorded as debits—as receivables. Accruals result from the receipt of services for which payment has not yet been made or from the rendering of services for which payment has not been received. The entries are therefore similar to the credit entries reviewed.

John Jones
Check sheet for John Jones June 30, 19--

ACCOUNT TITLE	ACCT. NO.	TRIAL BALANCE		ADJUSTMENTS		POSTED AND CLOSING SHEET		BALANCE SHEET	
		DEBIT	CREDIT	DEB	CREDIT	LOD & P	MCLOS	ASSETS	LIAB & PROP
Cash	1	10.00						10.00	
Notes Receivable	2	10.00						10.00	
Accounts Receivable	3	5.00						5.00	
Accrued Interest Receivable	4			1.00					1.00
Notes Payable	21		1.00						1.00
Accounts Payable	22		5.00						5.00
Accrued Salaries Payable	23				1.00				1.00
John Jones, Capital	30		100.00				100.00		100.00
Interest Income	41		1.00		1.00		1.00		
Supplies Expense	51	11.00				11.00			
Rent Expense	52	1.00				1.00			
Salary Expense	53	5.00				5.00			
		32.00	11.00	1.00	1.00	22.00	125.00	45.00	45.00
Total Debit						22.00	125.00	45.00	45.00

After the T accounts have been shown, the journal entries may be presented. To complete the picture, the new accounts developed in the presenting of accruals should be shown in the work sheet, along with those accounts with which the students are already familiar. The use of colored chalk will highlight the adjusting entries.

When the work sheet is completed, the teacher may emphasize the fact that Accrued Salaries Payable will appear on the balance sheet along with all other payables. Likewise, Accrued Interest Receivable is similar to other receivables and appears in the Current Assets section of the balance sheet.

REVERSING ENTRIES

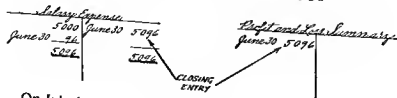
The principle of reversing entries is one that very frequently confuses students. Most of their trouble can be traced to two weaknesses: (a) they do not know which adjusting entries are to be reversed and which are not, and (b) they do not understand why they are making the reversing entry—they do not understand exactly the function it performs. The discussion and the examples given here describe the explanation the teacher may make to clarify these two points.

Why Make Reversing Entries? The reason for the reversing principle and the advantage of its use is that the reversing entry makes it possible to forget that a fiscal period has ended and a new one started. The entry makes possible the recording of transactions as normal entries rather than splitting the amounts into liability and expense accounts or into asset and income accounts. This explanation may be illustrated by reference to the adjusting entries for Accrued Salaries Payable and Accrued Interest Receivable.

Accrued salaries payable In the example presented at the beginning of this chapter, the payroll for the week was \$144. The fiscal period ended on Thursday, June 30, with \$96 in accrued salaries. The entry needed to record the accrued salaries was



The Salaries Expense account was closed into the Profit and Loss Summary at the end of the fiscal period, June 30.



On July 1, the first day of the next fiscal period, the adjusting entry is reversed.

Interest Income

A. Count No. 759

DATE	EXPLANATION	POST REF.	DEBIT AMOUNT	CREDIT AMOUNT
May 1	to Cash			1.50
June 20	to Cash			5.25
June 30	to Cash			12.50

The entry on June 30 to record the accrued interest on notes No 2, No 4, and No 5 was as follows

June 30 Accrued Interest Receivable

DATE	EXPLANATION	POST REF.	DEBIT AMOUNT	CREDIT AMOUNT
June 30	Interest Income		14.00	

All temporary accounts were closed at the end of the fiscal period, June 30, therefore, the Interest Income account was closed to the Profit and Loss Summary account on that date. The T accounts on June 30 would appear as follows

Accrued Interest Receivable

June 30	14
---------	----

Interest Income

June 30	35.25
May 1	1.50
June 20	5.25
June 30	12.50
30	14.00
Total	35.25

CLOSING ENTRY ADJUSTING ENTRY

Now see what happens if a reversing entry is not made on July 1. On July 16, note No 2 comes due with interest amounting to \$6. Since \$5 of this was recorded in Interest Income on June 30, the entry required is

July 16 Cash

DATE	EXPLANATION	POST REF.	DEBIT AMOUNT	CREDIT AMOUNT
July 16	Cash			6.00
	Notes Receivable		1.00	
	Interest Income			5.00
	Accrued Interest Receivable		5.00	

Observe that this is not a normal entry (Normally, the entire \$6 interest would be credited to Interest Income on July 16.) The bookkeeper must stop and answer the question 'What effect does the ending of a fiscal period on June 30 have on this transaction?' If he does not do so and if he makes the normal entry, he has made

The \$14 debited to the Interest Income account on July 1, when the reversing entry is made automatically subtracts \$5 for note No. 2 \$3 for note No. 5, and \$6 for note No. 4, and leaves a credit balance of \$5 67 in Interest Income, the amount that should be charged to that account during the new fiscal period. This one reversing entry made it possible to forget that a fiscal period had ended and to make all normal entries as far as interest on notes receivable was concerned regardless of how numerous these entries might be.

While only wages and interest on notes receivable have been presented, the same principles apply to interest on notes payable, accrued taxes insurance (when the expense method is used), bonds purchased as investments, and many other items. In brief, the number of transactions that would have to be recorded in a manner other than the normal would be quite numerous.

When are reversing entries made? Adjusting and closing entries are made on the last day of the fiscal period. Reversing entries, on the other hand, are made the following day, which would be the first day of the new fiscal period. They are made on this day so that the new asset and liability accounts opened by the adjusting entries will be closed and normal entries may be entered during this new fiscal period.

What adjusting entries are reversed? Not every adjusting entry is reversed, therefore students need to have a guide rule to help them determine which entries are reversed and which are not.

One rule frequently given is: Reverse all adjusting entries that recorded accruals. This rule is only partially correct in that it does not include all entries that should be reversed. A better and more comprehensive rule is this: Reverse all adjusting entries that open new balance sheet accounts. This rule includes all entries that record accruals and all others as well. The following are several examples of adjusting entries that should be reversed.

Wages Expense		
*Accrued Wages Payable	\$9 000	
To record the accrued wages		\$9,000
*Accrued Interest Receivable		
Interest Income	14	
To record the accrued interest on notes receivable		14

*Prepaid Interest on Notes Payable	12	
Interest Expense		12
To remove the interest prepaid on notes payable from Interest Expense since it is not an expense of this fiscal period		
*Supplies on Hand	62	
Supplies Expense		62
To record the supplies inventory and reduce Supplies Expense to the amount of the supplies used		
Interest Income	13	
*Prereceived Interest on Notes Receivable		13
To remove the interest paid to us in advance from Interest Income since it is not yet earned		

A copy of the work sheet on which these adjusting entries were made would show that the accounts marked with an asterisk do not appear in the trial balance. Therefore, they were not open in the ledger at the time the adjusting entries were made but were opened by the adjusting entries. It will be observed that whereas these accounts are opened by the adjusting entries, they are closed by the reversing entries. Therefore, another way of stating the preceding rule is "Make reversing entries to close all accounts appearing on the post-closing trial balance that do not appear on the trial balance."

PROBLEMS, QUESTIONS, AND PROJECTS

1 Is it best to use an income item or an expense item as the first illustration of accruals to present to a high school class? Explain your choice.

2 Secure a large calendar and develop an accruals problem that fits that particular calendar for a particular month.

3 Is it preferable to present only one type of accrual item the first day or to give several different types of accruals? Why?

4 Is it better to present accruals in all of its phases and reversing entries later or to take a single item such as salaries and carry it all the way through the reversing entry? Give reasons for your preference. Which method is more in line with the Gestalt psychological theory?

5 List as many different types of adjustments as you can and indicate which ones require reversing entries and which do not.

Teaching Notes, Interest, and Discount

STUDENTS NEED TO understand the account classification for each new account as it is introduced. Therefore, when the new accounts of Notes Receivable, Notes Payable, Interest Income, Interest Expense, Purchases Discount, and Sales Discount are presented, the position of each in the fundamental accounting equation should be shown. The following chart may be used to show the classification for all accounts introduced in this chapter.

<u>ASSETS</u>		=	<u>LIABILITIES</u>		+	<u>PROPRIETORSHIP</u>			
+ -			- +			+ -	+ -		
<u>Notes Rec.</u>			<u>Notes Pay.</u>			<u>Expenses</u>		<u>Income</u>	
+ -			- +			+ -	+ -	- +	
						<u>Interest Exp.</u>		<u>Interest Inc.</u>	
						+ -	- +	- +	
						<u>Sales Discount</u>		<u>Purchases Discount</u>	
						+ -	- +	- +	

NOTES RECEIVABLE

In introducing notes receivable, the teacher will wish to emphasize that notes from customers are usually received in payment of their accounts. The effect of this type of transaction is the same as extending to customers additional time to pay those accounts. The

NOTES, INTEREST, AND DISCOUNT

difference is that the debt is changed from open account credit to a written statement of indebtedness called a note. A promissory note may be no more binding than an oral promise made in good faith. On the other hand, a promissory note is definite written evidence of a debt and may be transferred by endorsement. For this reason a note is often preferred to an open account and is usually considered a more desirable asset than an account receivable.

In many instances, interest is earned on the note, whereas interest is usually not charged on past due accounts. From the point of view of the business granting credit, one asset is exchanged for another: the total of the accounts receivable is decreased and the amount of the notes receivable is increased, hence, the total of the current assets is unchanged.

Terminology and Application To work with notes, students must understand the terminology of notes. A note form may be placed on the chalkboard and the following parts identified, determined, and discussed: date, maker, payee, maturity date, face value, maturity value, interest, principal, discount, and proceeds. The opaque, slide, and overhead projectors are excellent devices for reproducing note forms for use in drilling on terminology. Various note forms may be obtained from an office-supply store or from a local bank.

The fact that a note is a negotiable paper may lead to discussion of negotiability. A committee of students may be assigned the project of studying the fundamentals of negotiable papers and presenting a report to the class. The five requirements of negotiability may be written on the chalkboard and discussed. To be negotiable, a note must meet the following requirements. It must

- 1 be in writing
- 2 be signed by the maker
- 3 contain an unconditional promise or order to pay a definite sum of money
- 4 be payable on demand or at a fixed or determinable future date
- 5 be payable to the order of a designated payee

Finding Maturity Date of Note The following simple method has been used successfully by many teachers to explain how to find the maturity value of a note.

Example A 90-day note dated July 6

- | | | |
|---|---|------------|
| 1 | Begin with the number of days in the month during which the note is dated | 31 |
| 2 | Subtract date of the note | <u>6</u> |
| | | 25 in July |
| 3 | Add the number of days in the following month | 31 in Aug |
| 4 | Take a mental total and subtract it from the days the note is to run to see if another whole month can be added. If it can, repeat step 3 | 30 in Sept |
| 5 | Add the total number of days | <u>86</u> |
| 6 | Subtract your total from the time of the note in days ($90 - 86$), the remainder is the due date in the following month | 4 Oct |

Although this step by step formula may seem wordy, a few examples will clarify it, and the actual solution requires only a few seconds.

The formula may be abbreviated as shown in the following example, which indicates how easily it works.

Example 60-day note dated April 6

Days in April	30
Date of note	<u>6</u>
	24 days left in April
	<u>31</u> days in May

(subtotal of 55 is close to 60, another month cannot be included so a total is taken)

55

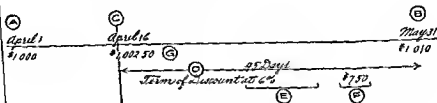
60 days minus the total of 55 gives June 5 as the maturity date

NOTES RECEIVABLE DISCOUNTED

The procedure for recording the discounting of notes receivable is usually not presented in the first year high school bookkeeping course. The topic, however, is covered in advanced high school bookkeeping courses and in college courses. Even though the topic is not included in elementary bookkeeping, the teacher should understand

Discounting Notes ¹

Transaction On April 16 Mr Brown discounts a 60 day note received from a customer. The note is dated April 1. The face of the note is \$1 000 bearing interest at 6 per cent. The discount rate is 6 per cent. How much does Mr Brown receive?



Step A Draw a horizontal line representing the life of the note 60 days. Record the date (April 1) and the face value of the note (\$1 000) at the start of the line.

Step B Record the due date (May 31) and the maturity value of the note (\$1 010) at the end of the line. Explain now that the note bearing interest becomes more valuable as it grows older.

Step C Draw a line representing the date of discount (April 16) through the horizontal line. At the intersection write the discount date when Mr Brown went to the bank.

Step D Draw an arrow from the discount date to the maturity date and label it "Term of Discount" below the arrow. Find and write above the arrow the number of days (45) discounted.

Step E Interest is charged Mr Brown on the maturity value of the note for the term of discount at the discount rate. Insert the discount rate "at 6% discount" after "Term of Discount".

Step F Calculate the interest on the maturity value for the term of discount at the discount rate. Write this amount (\$7 50) after discount under the arrow.

Step G The interest (\$7 50) subtracted from the maturity value (\$1 010) is the amount Mr Brown realizes at the discount date. Write the amount (\$1 002 50) under the date of discount (April 16).

¹ Adapted from Joseph C. Lynett *Business Teacher* vol 32 p 6 December 1954-January 1955.

The maturity value of the note is \$201 33 The bank discounts amount (\$201 33) at 6 per cent for 45 days The proceeds is \$199 82 The entry for this transaction is shown here

<u>Cash</u> 199 82	<u>Notes Receivable</u> 200 --
	<u>Interest Expense</u> 15

Now assume that the business holds this note until October 30 The maturity value is \$201 33 The bank discounts the note for 15 days, and the proceeds is \$200 83 The entry would be

<u>Cash</u> 200 83	<u>Notes Receivable</u> 200 --
	<u>Interest Income</u> 83

The following important rules should be observed about the discounting of notes

- 1 The bank discounts a note on its maturity value
- 2 The difference between face value and proceeds is interest earned or interest expense

The chart shown on page 270 illustrates the step-by step procedure in the discounting of a note

FIGURING INTEREST

Every high school student has at some time learned how to calculate interest Some of them may still remember how, but probably most of them may have forgotten because they may not have performed any interest calculations recently Most bookkeeping teachers find it necessary to review the method of figuring interest

Interest Formula The standard interest formula is

$$\text{Principal} \times \text{Rate} \times \text{Time} = \text{Interest}$$

This formula, as such, has one major weakness. Many students will incorrectly use the number of months or days as the time element. To avoid this error, emphasize the following restatement of the formula

$$\text{Principal} \times \text{Rate} \times \text{Time (in years)} = \text{Interest}$$

If they use the cancellation method, students also run into difficulty when the rate is stated in per cent. Per cent seems to be one of the more difficult principles in arithmetic for many students to understand. They do much better when they use fractions instead of decimals. The difference in the calculation is contrasted here—note that when the cancellation process is used, the location of the decimal may easily lead to error

$$\begin{array}{l} \text{Using} \\ \text{Decimals} \end{array} \quad \begin{array}{r} 35 \quad 01 \quad 15 \\ \$200 \times .06 \times \frac{.45}{360} = \$35 \times .01 \times 15 = \$35 \times 15 (01 \times 15) = \$5.25 \end{array}$$

$$\begin{array}{l} \text{Using} \\ \text{Fractions} \end{array} \quad \begin{array}{r} 7 \quad 3 \\ \$200 \times \frac{6}{100} \times \frac{45}{360} = \frac{37 \times 3}{4} = \frac{\$21}{4} = \$5.25 \end{array}$$

Six per cent method The 6 per cent method of figuring interest is usually presented and students are given practice using it. For some reason, the 4 per cent method, which is almost identical, is seldom mentioned. Actually, the 6 per cent method and the 4 per cent method are equivalent and the same rule applies for both. The 4 per cent method is based on 90 days while the 6 per cent method is based on 60 days. As a matter of fact, the rule for pointing off two decimal places will work for any combination of per cent and days which, when multiplied together, give an answer of 360. 3%—120 days, 5%—72 days, 8%—45 days, 9%—40 days, 10%—36 days.

Teachers should show their students why the rule works by solving a typical problem that shows that the rate multiplied by time always cancels out to be .01

$$\frac{1}{\frac{6}{100}} \times \frac{1}{\frac{60}{360}} = \frac{1}{100} = .01 = 1\%$$

Interest and Time Tables All banks and most businesses which have many interest calculations to perform use interest and time tables. The use of these tables in the bookkeeping class is highly recommended. A display of copies of the time and interest tables used in the local bank will add interest to the discussion.

- 1 Introduce interest tables after students have reviewed the use of the interest formula.

- 2 Encourage students to use interest tables for all difficult interest calculations. Interest calculations involving fractional interest rates, such as $4\frac{1}{2}$ per cent, and odd days, such as 43 days, 211 days, should be performed by the use of an interest table. While students can perform such calculations manually, they require much more time than is justified.

- 3 Condition students to use the tables as an aid but not as an indispensable crutch. Many interest problems can be calculated more rapidly by the use of the 6 per cent or other similar method than by the use of an interest table. Unless this point is emphasized and enforced, students may become mentally lazy and rely on the table for all interest calculations. Some teachers have students work interest problems by formula and then use the table to check the accuracy of their answers.

- 4 In problem material, avoid using time figures (such as 37 days, 119 days) which are difficult to calculate unless interest tables are being used.

- 5 Have students apply the test of reasonableness to all interest calculations. Most teachers have had students who reported the interest on \$100 at 6% for 60 days as \$10. An answer of \$100 or \$1,000 is not entirely unusual. Such errors are the result of misplacing the decimal point. The best check against a misplaced decimal point is the test of reasonableness.

- 6 Introduce time tables after students have reviewed the method of calculating the time between two dates. Encourage students to use the time tables to check the accuracy of their time calculations.

TEACHING CASH DISCOUNT

The procedure for determining and recording cash discount and its advantage to the purchaser are usually covered adequately

by most bookkeeping teachers. Many teachers, however, neglect to acquaint students with the true nature of discount and why creditors feel obligated and can afford to offer discounts for prompt payment.

The taking of discounts on purchases is equivalent to the earning of interest on money loaned. The payment of an account before it is due is equivalent to a loan to the creditor for the amount of the invoice for the number of days remaining until the due date of the invoice. For example, merchandise is purchased on terms of 2/10, net 30 (also written 2/10, n/30). The students understand, of course, that this means that the purchaser gets 2 per cent discount on the invoice if it is paid within 10 days. This reduction is offered the purchaser for paying the account 20 days before full payment is expected. The use of money for 20 days certainly does not justify a discount of 2 per cent on the invoice from an interest point of view alone. A discount of \$2 on \$100 for a period of 20 days is the equivalent of an annual interest rate of 36 per cent. The creditor could borrow money at the bank at a far smaller interest rate. Therefore, something more than interest is obviously involved.

Two other factors enter into cash discount: prevention of losses on accounts, and tradition and custom. The offering of discounts is one way of encouraging customers to pay their accounts before they fall due and thus to avoid becoming delinquent in payment. Students have learned that a business normally experiences a certain percentage of bad debts losses on open account credit. These losses range all the way from $\frac{1}{2}$ per cent to as high as 3 per cent or more in some businesses. Certainly any account that is paid before it is due cannot become a bad debt. Thus, by giving a discount to its customers and encouraging them to pay their accounts early, a business is making sure that it will not suffer bad debts losses on those accounts on which the customers take advantage of the discount.

While discounts may prevent some accounts from becoming delinquent, the number of such accounts would not justify a discount of 2 per cent or more, which is usual in certain lines of businesses. This leads to the conclusion that custom within specific lines of businesses is a major determining factor in the offering of cash discounts. Purchasers have become accustomed to receiving a discount and they frequently think of the discount as an actual

deduction in the cost of the merchandise. A manufacturer, therefore, is required to provide a cash discount in order to meet competition.

Business Ethics The topic of cash discounts provides an opportunity for the teacher to discuss business ethics. If a discount is to be deducted, the business is obligated to make remittance within the discount period. To attempt to deduct a cash discount after the discount period has passed is a violation of fundamental business ethics. Unless otherwise stated, the discount period begins from the date of the shipper's invoice and not from the date the buyer receives the merchandise. Generally, payment should be made so that it reaches the seller's office on or before the last day of the discount period.

Variations in Discount Terms In pointing out variations in discount terms, the teacher may find it necessary to supplement the text by additional explanations.

2/10, E O M These terms permit a 2 per cent discount if the invoice is paid within 10 days after the end of the month (E O M) in which the merchandise is invoiced. In some lines of business custom has established that on invoices dated on or after the 25th of the month, the E O M refers to the end of the following month. For example, if an invoice is dated July 25, under these terms the discount is available until September 10.

4/10 R O G The time of receipt of the goods (R O G) and not the date of the invoice determines the discount period. R O G discount terms may be used when goods must travel long distances before reaching the buyer.

3/10, 60 extra This is referred to as 'extra dating'. The discount period covers 10 days plus 60 extra days or a total of 70 days. The buyer may deduct the discount if the invoice is paid within 70 days of the invoice date. When extra dating is granted, a business may pay the invoice before the end of the discount period and deduct interest on the net amount paid at a rate agreed upon for the number of days that the invoice is being paid in advance. For example, if the terms were 2/10, 120 extra, and the invoice were paid within 10 days after date of invoice, interest might be deducted for 120 days. Such an arrangement, however, must be agreed upon by the buyer and the seller. Such a discount is referred to as 'anticipation discount'.

Cash Discount on Partial Payments Figuring the discount on the total amount of an invoice is relatively simple and is usually readily mastered by most students. Many students, however, have difficulty in computing the exact amount for which the customer should be credited when he makes a partial payment of an invoice within the discount period. Many teachers have difficulty in teaching this procedure.

The most common mistake made in figuring cash discounts on partial payments is the incorrect procedure of multiplying the partial payment by the rate of discount and adding this figure to the amount of the payment. For illustration, assume that on an invoice for \$300, terms 2/10, net 30, a partial payment of \$160 is received within the discount period. For what amount should the customer be credited? Students usually multiply \$160 by .02. This produces an answer of \$3.20, which they add to the \$160 and give the customer credit for \$163.20.

A group of one hundred college freshmen who were enrolled in an accounting principles class were given this problem before the principle of cash discount had been explained to the group. All these students had previously studied bookkeeping. Sixty of the one hundred students submitted a solution of \$163.20, six students credited the customer for only \$160, eighteen students got the correct answer of \$163.27, while sixteen got answers different from any of these three figures.

There are three ways of solving this type of problem: by the percentage method, by proportion, and by algebra. When all three are explained to an average class (different students prefer different methods), each student will usually find at least one method that he understands, likes, and can master. Chemistry students especially like the proportion techniques while those who are good in algebra prefer the algebraic solution.

Percentage method The amount for which the customer is to receive credit represents 100 per cent. The discount is 2 per cent. *The payment therefore represents 98 per cent.* Thus, the solution is to divide the amount of the partial payment by 98, to obtain 1 per cent, and then to multiply by 100 to convert to 100 per cent.

$$\frac{\$160}{98} \times 100 = \frac{\$16,000}{98} = \$163.27$$

Proportion method Again the amount for which the customer is to be credited represents 100 per cent, the discount is 2 per cent and the amount of the payment therefore represents 98 per cent. The solution

$$\frac{\text{Amount of Payment}}{98\%} = \frac{?}{100\%}$$

$$\frac{\$160}{98} = \frac{x}{100}$$

$$98x = \$16\,000$$

$$x = \frac{\$16\,000}{98}$$

$$x = \$163.27$$

Algebraic solution The customer is to be credited for an unknown amount. The discount is 2 per cent, or .02, of this unknown amount. This unknown amount minus 2 per cent of it is \$160. The solution

$$x - .02x = \$160.00$$

$$98x = \$160.00$$

$$x = \frac{\$160.00}{98}$$

$$x = \$163.27$$

The mathematical operations are obviously similar for each method. However, the thinking or reasoning is different, and each method therefore appeals to different students.

Transportation Charges One other factor sometimes causes difficulty. Some students forget to deduct charges for prepaid postage before figuring the discount. Usually the customer is not entitled to a discount on the postage. This error will be avoided if the student is taught to refer to the original invoice before making the arithmetical computations rather than using the figures that appear in the customer's account in the ledger.

In presenting the procedures for determining partial payments on invoices and for the exclusion of transportation charges in determining discount, the teacher should avoid establishing arbitrary rules. Many businesses do not permit discounts on partial payments. Many firms do not exclude transportation charges from

discount especially when the transportation charge is a relatively small amount. Students need to be warned that they will encounter these variations in business practice.

PROBLEMS QUESTIONS AND PROJECTS

1 Prepare a lesson plan which you could use in presenting one of the following topics

- a Parts of a note
- b How to calculate due date of note
- c How to record payment of an interest bearing note
- d How to record the discounting of an interest bearing note

2 What are the various methods of recording Notes Receivable Discounted on the balance sheet? Which method do you think is preferable? Examine several published corporation statements and determine which method is most commonly used.

3 The 6 per cent 60-day method of calculating interest is commonly used. Explain how you would present to a class the 4 per cent 90 day method.

4 Prepare a set of instructions to accompany a set of interest and time tables which would explain to students how to use the tables.

5 Three methods of calculating partial payments made within the discount period were discussed in the chapter. Which method do you think would be the easiest for most students to understand? Explain your answer.

6 Since most business workers who perform many interest calculations use interest and time tables in making the calculations, should most of the class time devoted to interest be used to explain how to use interest and time tables and relatively little time spent in manual calculation?

7 The topic on notes in bookkeeping provides an excellent opportunity to correlate information on the fundamentals of negotiable instruments. Several weeks are usually spent in a business law class on these fundamentals. What information about negotiable instruments should be brought into the bookkeeping class and how much time do you think should be devoted to it? How would your answer differ if no business law course were offered in your school?

8 Prepare a visual device for use in presenting one of the following topics

- a The parts of a note
- b The five fundamentals of a negotiable paper

- c. How to record the discounting of a note
- d. How to calculate interest on a note

CASE PROBLEMS

1. During the discussion on calculating interest in the bookkeeping class, John, a student, reported that his father had borrowed \$500 from a loan company, and that he was paying \$50 a month for twelve months to pay off the loan. John questioned whether or not his father was being cheated. Miss Warner, the teacher, replied that this matter was not really a bookkeeping problem and that they could not take the time in the bookkeeping class to discuss and calculate the actual rate of interest John's father was being charged. She suggested to John that he take up the problem in his business arithmetic class.

When questioned on this incident after class by an observer, Miss Warner stated that she did not discuss John's problem for the following reasons.

a. The loan company is a recognized business establishment in the community. She has placed students in their offices and she does not wish to get involved in the discussion of an ethical question as to whether or not their interest rates are excessive.

b. The problem is one of determining interest rate, which is rather involved and difficult, and is not typical of any type of calculation involved in bookkeeping. Class time is too limited to take the time to go into such a problem.

c. John's problem is not a bookkeeping problem, nor is it related to bookkeeping.

Do you agree or disagree with Miss Warner? How would you have handled the situation?

2. In a speech before a convention of teachers Alan Jacobs, a businessman, criticized the treatment of interest in bookkeeping textbooks. Mr. Jacobs pointed out that *most interest problems in bookkeeping textbooks always have the time so arranged as to come out an even number of days, such as 60, 90, 120, 180, so that the interest calculations are simplified.* He claimed that this is unrealistic. People don't wait until exactly 60, 90, or 120 days to pay off a loan. They pay up when they have the money. It is a rare coincidence that the date of payment falls on exactly 60 or 90 days from the date of the note. Mr. Jacobs stated that, as a result of this training after students find jobs they are puzzled when they have to calculate typical interest problems.

He recommended that textbook authors change to more realistic problems

What is your reaction to Mr Jacobs's comments?

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CHAPTER 19

Teaching Income Tax, Social Security Tax, and Payroll Records

TEACHERS FREQUENTLY question the practicability of certain topics normally taught in high school bookkeeping classes. They are in unanimous agreement, however, on the importance of one topic—taxes. Approximately one half of our high school seniors are required to file Federal tax returns. The remaining class members will be required to file returns in the very near future. With the minimum tax rate equal to about one fifth of one's net income, it is very important for every person to know how to calculate his tax liability. Every fourth person who files a return either overstates or understates his tax liability. Correct accounting procedure and knowledge of how to prepare a tax return should eliminate many of these errors.

Intelligent citizenship requires an understanding of the basic concepts of income taxes. There is probably no better opportunity in the high school for teaching this understanding than that presented in bookkeeping and accounting classes.

The ideal time to teach the tax unit is early in the second semester. At this time of the year the newspapers carry informational articles intended to aid the individual taxpayer. Employees usually

receive copies of their W 2 forms between January 15 and February 5 stating their total earnings for the preceding year and the amount of taxes that was deducted from their pay checks. There is considerable interest in taxes at this time of the year and there is still sufficient time remaining before the Federal returns must be filed, April 15, to cover the unit adequately.

INDIVIDUAL INCOME TAX AND SOCIAL SECURITY TAX

In teaching the tax unit, the teacher must make a rather sharp division in the subject matter. He must distinguish between those materials relating to the individual as a taxpayer and the information he needs in preparing his tax return, and the materials relating to the tax obligations of a business and the records and returns that the bookkeeper will need for preparing and filing for his employer. As students are especially interested in taxes from the standpoint of the individual, most teachers first develop this part of the unit and then proceed to accounts, records, and returns required by business. Confusion is certain to result if an attempt is made to present the two aspects of the unit concurrently. The first part of the unit should emphasize these points:

1 The meaning of such terms as the following

withholding tax	exemptions	allowable
take home pay	gross taxable income	deductions
FICA tax	contributions	capital gains and losses

2 Understanding of such forms as the following

Form W 2	Withholding Statement
Form 1040	US Individual Tax Return Form
Form W 4	Employee's Withholding Exemption Certificate
Form 1040 ES	Declaration of Estimated Tax
Form SS 5	Application for Social Security Account Number

3 How an individual reports and pays his Federal income tax
(In those states where a state income tax is also collected the reporting and paying of state income tax would also be included.)

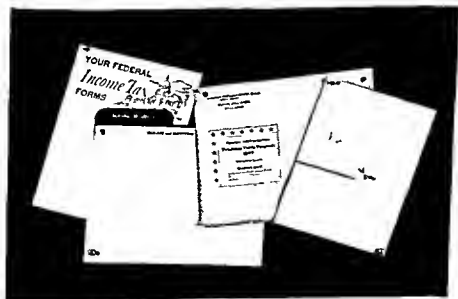
- 4 Rights and benefits of the Social Security Act
- 5 What records an individual needs to keep to file accurate tax returns

Instructional Materials Since most bookkeeping textbooks are written primarily in terms of business records they contain little instructional or problem material appropriate for the first part of the tax unit. Fortunately, however, there is an abundance of free and inexpensive materials available on individual income tax and social security for teacher use.

One of the best sources of material on Federal income tax is the *Teachers Kit on Teaching Federal Income Taxes* published and distributed free of charge by the Internal Revenue Service. The kit consists of the following material:

- 1 Teachers Handbook General Course
- 2 Instructions for Preparing Form 1040
- 3 Form 1040 (Pages) Blowups
- 4 Student's Handbook—one for each student

This instructional kit may be obtained by writing or contacting the District Director of Internal Revenue nearest your school.



Social security and income tax instructional materials are available for teacher and student use from agencies of the United States Government

A similar kit entitled "Teaching Aids on Social Security" is published by the Social Security Administration of the Department of Health Education, and Welfare. Copies may be obtained by request from your local social security office. The kit contains the following material:

1. Charts explaining how social security operates
2. Problem sheets for use by students
3. Pamphlets about old age and survivors insurance for teachers' use
4. Forms used in establishing and maintaining social security records

Many inexpensive publications are also available at bookstores each year at Federal income tax time. One of the most authoritative and complete publications is *Your Federal Income Tax*. This book may be obtained for a small charge from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

Local newspapers and national magazines annually carry series of articles on income and social security taxes. In a short time, a teacher may accumulate a very helpful tax file of these clippings.

Radio stations frequently reproduce a series of instructional talks made by officials of the Internal Revenue Service. A tape recording of these talks is an excellent source of supplementary material.

Extra forms may be obtained from your nearest office of the Internal Revenue Service. Representatives from that office will also meet with your class, depending upon the location of your school.

Your local social security office may be able to provide you with films and filmstrips which you may wish to show to your class.

Teaching Plan. In planning for the tax unit, the teacher must answer two questions: (1) How much time should be spent on personal income and social security taxes? (2) How should the instructional material be organized?

The first question depends largely upon whether income and social security taxes are covered in other courses and whether the students in bookkeeping have taken or will take these courses. A unit on social security is usually included in a general business course. Both social security and income tax calculations are gener-

ally covered in business arithmetic classes. In some schools, social science courses include a tax unit. Even though a study of tax returns may be included in other courses, some instruction on income and social security taxes should be included in bookkeeping. Because of the relation of taxes to records, the bookkeeping course is the logical place for the topic. The amount of time, however, that will need to be spent in bookkeeping on the topic will depend upon the knowledge the students bring to the course. A survey of bookkeeping teachers revealed that the time spent on personal income tax and social security tax ranged from two to four weeks.

Keeping the class discussion confined to basic fundamentals and avoiding involvement in time consuming personal tax illustrations presented by students is always difficult. As all teachers know, in presenting the tax unit there is always the temptation to deviate from the discussion by trying to answer such student questions as: Is Paul's uncle entitled to claim as exemptions children of a former marriage of a divorced wife when the children live with Paul's grandmother for whom Paul's uncle provides the chief support? Unless the teacher is thoroughly familiar with income tax regulations, he should avoid establishing himself as a tax authority by passing judgment on personal tax problems.

One way of keeping the class to the basic fundamentals is to use the case problem approach. Bower emphasizes this point in the following statement:

The case problem approach very simply stated is to solve with the class several carefully prepared case problems by working through actual income tax returns. By using this method the exceptions to the rule may be avoided and the basic concepts can be effectively taught. The complications of the income tax laws can be avoided (they affect a relatively small number of taxpayers, and those who are affected will usually be in the income tax brackets where professional assistance should be sought), yet the coverage can be extensive. Teachers without any knowledge of income taxes beyond the case problem being presented can teach an excellent unit, because the discussion can be limited to the case at hand.¹

¹ James B. Bower, "Are High Schools Graduating Income Tax Illiterates?" *The Balance Sheet* vol. 35 p. 255 February 1954.

The instructional material provided by the Internal Revenue Service for classroom use follows the case-problem approach

In those states where a state income tax is levied on individuals, the treatment of the Federal income tax reports should be followed by a similar study of state income tax forms. The teacher will probably have to develop his own instructional materials for this part of the unit

BUSINESS TAX RECORDS

After the class has completed its study of personal income taxes (both Federal and state) and social security tax, the class can proceed to the next part of the unit, payroll calculations, tax records, and reports required of employers. This part of the unit should emphasize the following points

1 Understanding of these tax forms

Form 941-T	Employer's Quarterly Federal Tax Return Schedule A, a separate form, must accompany Form 941-T
Form W-3	Reconciliation of Income Tax Withheld From Wages
Form 940	Annual Federal Tax Return of Employers Withholding Tables
Form SS 4	Employer's Application for Identification Number
Form 450	Federal Depository Receipt

2 Why a business needs to keep detailed and accurate tax records

3 The nature of such accounts as the following

Employee Income Tax Payable	FICA Tax Expense
FICA Tax Payable	State Unemployment Tax Expense
State Unemployment Tax Payable	Federal Unemployment Taxes Payable
	Federal Unemployment Tax Expense

4 The function and use of such accounting forms as the following

- Payroll timecard
- Payroll register
- Employee's earning record

5 Special taxes—where appropriate

State or city sales tax

Federal and state excise taxes

Amusement tax

Instructional Materials Most elementary bookkeeping text books provide a thorough coverage of payroll calculations and records and payroll tax records and entries. As sufficient problem material is usually provided, the teacher will not find it necessary to supplement the text material. Textbooks, however, do not include information and instructional material related to state and city sales taxes. These taxes vary so widely among states and cities that it is not practical to include this material in a textbook. In those cities and states where sales taxes are collected, the required recording procedures are extremely important and should be included in the instructional unit. The teacher will find it necessary to develop supplementary materials for these special taxes.

The teacher may also wish to discuss recording procedure for excise taxes charged on the sales of certain commodities such as luggage, jewelry, and furs and for amusement taxes charged on admissions.

Teaching Methods Most textbooks and teachers begin this section of the unit by presenting payroll calculations and records. Timecards are discussed and calculated, payroll registers are completed and tax deductions made, and entries are made on individual earnings records. To personalize this activity, the teacher might borrow a time clock. An individual timecard is prepared for each student in the bookkeeping class. Four weeks before the payroll unit is introduced, the students are requested to report to the bookkeeping room each morning upon arrival at school and to register in on the time clock and out each afternoon when they leave school. When the class is ready to take up payroll calculations, each member of the class has four weekly timecards. The teacher uses these timecards to illustrate the four different ways wages are calculated. The first week each student calculates his wage and his tax deduction for the first week at a straight hourly rate (no overtime). All hours above a prescribed number are considered as overtime for the second week. For the third week, overtime is paid for all hours above a certain prescribed figure each day. The fourth week they use

a prescribed weekly salary and are paid overtime for all hours above a certain number *each week*. Through this personalized system the four common methods of calculating wages are simulated. Students are naturally more interested in determining their own wages than in completing a nonpersonalized assignment.

To relate payroll calculation to the community, the teacher may assign student committees the responsibility of investigating the payroll plans and procedures followed by representative industries in the community and of reporting to the class. A field trip for all members of the class to the payroll department of a large company will give the students an opportunity to see payroll machines in operation.

An inspection of errors made on the payroll and tax unit showed that the chief cause of error in the ledger entries was the placement of an amount in the expense account when it should have been recorded in the liability account or vice versa. This error results from the similarity of titles between the expense account and the liability account. One way to avoid this type of error is to instruct students to include in the account title the classification of the account, for example

Liability Accounts

FICA Tax Payable
State Unemployment Tax Payable
Employee Income Tax Payable

Expense Accounts

FICA Tax Expense
State Unemployment Tax Expense
Salary Expense

To assist students in identifying and classifying these new accounts, the teacher might prepare and duplicate a series of charts such as the following and distribute copies to students for reference.

FICA Tax Payable (Liability Account)

Debited at end of month or quarter for total credit balance when payment is made to United States Treasury

Credited each pay period for
1 amount deducted from employee's wages for FICA tax
2 amount equal to employee deductions as employer's contribution.

FICA Tax Expense (Expense Account)

Debited each pay period for amount of employer's contribution to FICA tax

Total debit balance in account is transferred at end of fiscal period to Profit and Loss Summary account

Similar charts may be prepared for each of the following accounts: Employee Income Tax Payable, State Unemployment Tax Payable, Salary Expense, State Unemployment Tax Expense

PAYROLL SYSTEMS AND MACHINES

As an aid to businessmen in handling payroll records, a number of labor-saving systems such as the Pegboard or Writing Board System have been developed for use by small businesses. Since the same data for each pay period are written on three different forms—the payroll register, the voucher stub or check, and the employee's earning record, the three recordings are completed in one writing through the use of carbon strips.

A class demonstration of one of these systems would be valuable. To be most effective, the demonstration should be given near the end of the unit after students have recorded payroll entries. If a demonstration cannot be arranged, descriptive circulars illustrating the system can be explained and displayed.

PROBLEMS, QUESTIONS, AND PROJECTS

1 One bookkeeping teacher introduces the unit on taxes by discussing the budget of the Federal Government, emphasizing how much money the Government needs to carry out its functions, what it spends the money for, and where the money comes from. Charts and graphs are developed. To do this thoroughly requires the major part of one class period. What is your reaction to this approach? What particular values do you consider would come from this approach? Do the values justify the class time required?

2 The statement has been made that "A little bit of knowledge is a dangerous thing, especially when it comes to taxes. Much of the tax instruction in schools is more harmful than helpful, as it encourages individuals to prepare their own tax returns when in many cases they should have them prepared by an accountant." Do you think this statement is justified? Give the reasons for your answer.

3 In your opinion, what tax topics should be included in a first-year bookkeeping course and how many days should be devoted to the unit?

4 Prepare an appropriate visual-aid or bulletin-board display for use with this unit

5 Prepare three sample income tax case problems for use as assignments in a high school class. Make the second case problem slightly longer and more difficult than the first, and the third longer and more difficult than the second

6 Make a list of the taxes collected from a small store in your community. Indicate which of these taxes should be presented and discussed in the elementary bookkeeping course. Prepare a folder containing the materials necessary for the presenting of local and state taxes to your class

CASE PROBLEMS

1 Robert, a bookkeeping student, expresses the opinion to the class that "Only suckers pay income tax. It is the worker who pays all the taxes as his taxes are deducted from his pay and he can't get it back, but the rich man has all sorts of schemes to get out of paying his tax." This same negative attitude is further shown by his repeatedly asking why you couldn't do this or that to beat the Government out of taxes and stating that he knows people who didn't report certain incomes. How would you handle this situation? (Keep in mind that the student is obviously parroting remarks he has heard at home.)

2 The principal of a large high school (1,000 students) appointed a committee to consider in which course a unit on preparation of personal income tax returns should be presented. Teachers representing social studies, bookkeeping, general business, general mathematics, and home economics were appointed to the committee. The principal requested the committee to produce recommendations that will avoid unnecessary duplication of subject matter.

Assume that you represent the bookkeeping teachers on this committee. Submit the list of recommendations that you would propose to the committee. If, in preparing these recommendations, you find it necessary to assume certain factual information about the school that is not stated in the problem, include this information in your report.

3 One bookkeeping teacher has made the following comment: "Good teaching methodology is far more important than an extensive technical knowledge of income taxes so specialized that it does

not apply to the average taxpayer. If the teacher is willing to make reasonable preparation for the lesson he is to teach he will accomplish more than would most tax experts coming in from the Office of the Director of Internal Revenue to teach the class.

To what extent do you agree or disagree with this statement? If a representative of the Internal Revenue Service were to meet with your class, what precautions could you take to insure that his presentation would be effective? At what place in the unit would you plan for such a visit?

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Using Practice Sets

BOOKKEEPING PRINCIPLES are usually introduced one at a time, and after each one is presented, problems are assigned to give students sufficient practice for mastery of the new principle. Not only should the new principles be applied but also those learned in earlier lessons. In fact, each time the bookkeeping cycle is repeated, students apply new principles and at the same time continue to use those they have studied earlier in the course. This method of learning is sometimes referred to as the expanding spiral development pattern—repetition, but on gradually higher levels, with the continual addition of new items.

Periodically the teacher assigns a problem much longer than the usual one. Such long problems are generally referred to as practice sets to differentiate them from the usual problems at the end of the unit or chapter. The practice set serves to integrate the principles and techniques of bookkeeping and to show the relationship between the principles, the techniques, and the steps in the bookkeeping cycle.

Early History In the early history of bookkeeping instruction, practice sets were used almost exclusively as the instructional media. Students advanced from one set to the next. Business papers were used with all practice sets. A student's bookkeeping training was described in terms of the number of sets completed, such as a stu-

dent has progressed through the fourth set. This plan of instruction was developed for, and ideally adapted to, the private business school which had no uniform starting date and in which a student could begin his bookkeeping study at any time.

When bookkeeping classes were introduced in the high school, group instruction became possible. Gradually the practice sets were replaced by textbooks containing short problems with drill on specific principles, and practice sets were used only at designated intervals. The instructional program outlined for most current textbooks recommends one short practice set for each semester.

Business Papers. If students are to understand that business papers are the basis and authority for bookkeeping entries, they must have the opportunity to use business papers. However, extended use of business papers slows progress considerably. In any given period fewer entries may be made when business papers are used than when they are not used. Practice in the handling, filing in, checking, and filing of business papers beyond that which is necessary wastes the student's time. Although the amount of practice needed with business papers varies among students, it is generally considered that sufficient practice should be obtained through their use with one practice set. The use of business papers with one practice set is therefore highly recommended.

TEACHING THE PRACTICE SET

Whether or not practice sets achieve their full instructional possibilities and justify the three to six weeks of valuable class time that is usually spent on them each semester depends upon whether the teacher uses the set as an instructional opportunity and aid or merely as a testing device. Binnion comments on this latter use of the practice set as follows:

In the past, many (teachers) have been under the impression that the practice set was a testing device. As a result, it was common practice for the students to get together, often pooling their ignorance and misconceptions, for the sole purpose of completing the set on time so they would get a certain desired mark in the grade book of the teacher. The students who followed this procedure were not interested in applying the principles of bookkeeping, of seeing the consummation of their many months of study and working of isolated problems, or of securing any

of the other desirable effects which could be present. The set had merely become some more busy work.¹

So that the maximum educational value may be obtained from the practice set, the following instructional procedures are recommended.

1 *The teacher should work the practice set before using it in class.* The teacher must be thoroughly familiar with the set if he is to assist the students properly. By working the set, the teacher will become acquainted with the pitfalls that may confuse the students. Problem transactions can be identified and thus made the basis for class discussion. Assignments of the proper length can be determined, and reasonable time standards for completion of the various parts of the set can be established. The inexperienced teacher especially needs the experience of working the set in order to gain confidence in directing practice set work.

2 *The set should be related to the community.* The practice set will mean much more to the students if some time is spent relating the set to the community. Before starting on the set, the teacher may hold class discussions based on the type of business represented by the set, businesses in the community of a similar type, and problems peculiar to that type of business. It is important that students see the relation between the needs of the business and the kinds of books kept to meet those needs. Taking a field trip to a local business similar to the type represented in the practice set or having a guest speaker from the business represented, might be used in this orientation.

3 *The practice set should be taught.* The teacher should not take the practice set period as a sort of vacation from teaching. Unfortunately, too many teachers conscientiously *teach* bookkeeping up to the time of the practice set, then they suddenly turn the students loose to plunge into the set with little preparation and sometimes little knowledge of what is required except that their work is to be completed by a specified date. The teacher spends most of the class time sitting at the desk, grading papers, catching up on other

¹ John E. Binnion, "When You Use a Bookkeeping Practice Set," *Journal of Business Education*, vol. 31, p. 30, October 1956.

school and personal duties, and giving individual student instruction when called upon to do so. As the end of the practice set period approaches, the number of students who require assistance increases and the teacher must rush to give the individual instruction needed, thus, tension mounts, the time period is extended, the students are admonished for not keeping their work up to date, and they copy from other students so that they may make the deadline.

4 *The business forms, journals, and ledgers used in the set should be carefully explained.* Before the students start to work on the practice set, a thorough review should be made of the various business papers and of the journal and ledger forms used in the set. Such review provides the teacher with an opportunity to relate the set to the previous learning of the student. The student thus has much more confidence in working the set and will see the relationship of the forms and procedures of the set to the previous work he has had in bookkeeping. Unless the teacher presents a review of this kind, the student may think of the practice set forms and procedures as something quite different from those he has used and worked with in problem materials in the text. The students should be encouraged to refer to their textbook when they need help in analyzing the recording of a difficult transaction. The teacher should encourage the use of the index for the location of a certain item.

5 *Recording of opening entries should be carefully supervised.* Regardless of what specific instructional plan the teacher uses during the practice set period, he should carefully lead the class through the journalizing and posting of the opening entries. Especially at the beginning of the practice set, he should exercise close supervision to help the students get off to a good start and to insure uniformity of progress.

6 *Difficult transactions should be previewed.* Although the practice period is one in which the students should be given as much opportunity as possible to use their own resources in doing the practice set work, the teacher should anticipate the difficult transactions—those with which many members of the class might have difficulty. These transactions should be made the basis for class discussion. When the teacher works the practice set before presenting and assigning it to the class, he will identify these transactions

Thus, each day the teacher can identify the difficult transactions and spend whatever class time is necessary in explaining them. Teaching of this kind makes the practice set a real learning experience. If it is not done, the teacher will find it necessary to repeat the explanation of each difficult transaction to different students. The explanations may be inadequate, and students will not receive the learning experience that the opportunity can provide.

7 *Diversified teaching aids should be used.* The same teaching aids that have proved effective in presenting the principles of bookkeeping should be used in presenting the practice set. These aids include the chalkboard, charts and posters, drawings and diagrams, actual business forms and records.

8 *Daily guideposts should be established.* In order to keep the class progressing uniformly through the practice set, the teacher should give definite daily assignments and should make a constant check on progress to insure that students are keeping up with the assignments. Once a student gets behind, he may find it almost impossible to catch up. If the teacher works the set prior to its use in class, he will be better able to estimate assignment lengths.

Instead of giving daily assignments, some teachers prefer to permit their students to exercise more freedom in planning their work by using weekly goals or assignments, that is, by indicating the point in the practice set that the class should reach by each Monday. Weekly goals seem to work well because a student cannot get so far behind in a week that he cannot catch up with a reasonable amount of "overtime" if he tries. The practice of weekly goals also keeps the pace of the class sufficiently uniform so as to permit daily group discussion of difficult transactions.

9 *Regular evaluation must be planned.* Periodic and regular checking and evaluation are necessary to insure that students are keeping their work up to assignment and are proceeding correctly, and to avoid a repetition and compounding of errors. It is much too late to let the student discover, at the time he takes a trial balance, that he has been proceeding incorrectly—all along the way he must be given an opportunity to audit his books and discover his errors. This frequent evaluation will give a student confidence in the knowledge that he is doing the work correctly.

Freeman and Kahn state

Not only should the student evaluate his own work periodically but the teacher also should audit it. Since the practice set is a teaching device, the teacher should take time frequently—at least once a week—to determine the effectiveness of the teaching and learning process. He should not—must not—wait until the set is completed to test the results, each major segment of the set activities should be analyzed and evaluated before the student proceeds to the next section.²

Name _____

CHECK SHEET #1

GEORGE HEATING COMPANY PRACTICE SET

December 6 19—

To be filled in on completion of Instruction Sheet #2

Cash Balance

Cash Balance as shown in Cash Journals _____

Checkbook Balance _____

Pencil Footings _____

Cash Receipts Journal

General Ledger Credit Column _____

Accounts Receivable Credit Column _____

Sales Discount Debit Column _____

Net Cash Debit Column _____

Cash Payments Journal

General Ledger Debit Column _____

Accounts Payable Debit Column _____

Salary Expense Debit Column _____

FICA Tax Payable Credit Column _____

Employee Income Tax Payable Credit Column _____

Purchases Discount Credit Column _____

Net Cash Credit Column _____

Number of Entries in _____

Purchases Journal _____

Sales Journal _____

² M. Herbert Freeman and Gilbert Kahn "The Bookkeeping Practice Set
Business Teacher vol 31 p 14 April 1954

Name _____

CHECK SHEET #2

GEORGE HEATING COMPANY PRACTICE SET

December 29 19__

To be filled in on completion of Instruction Sheet #4

Cash balance as shown by Cash Journals _____

Checkbook balance _____

Number of entries in Purchases Journal _____

Sales Journal _____

Submit this check sheet with your books to your instructor

To be checked by instructor

Files for Business Papers—Comments _____

Journals—Comments _____

Ledgers—Comments _____

This regular checking and evaluation should be of two types evaluation forms prepared and checked on the basis of data taken from the sets and from an examination of the sets and tests serving to evaluate the students general understanding of the set

Evaluation forms Two evaluation forms for use with a specific practice set are shown on page 297 and above The date on each form indicates the date in the practice set that the form would be checked The forms would be duplicated and the students would fill out the information requested and submit the form with the set for examination by the teacher

Tests The practice set tests should examine the students general knowledge of the set This may be done by using an open book test in which the student is asked to provide specific information taken from the set and to identify the source of the information Such questions as the following might be asked

³ The George Heating Company Practice Set Gregg Publishing Division
McGraw Hill Book Company Inc New York 1948

	<i>Answer</i>	<i>Source</i>
1. From whom was the purchase on Jan 8 made?	_____	_____
2. Which salesman sold fuel oil on Jan 6?	_____	_____
3. How many oil burners were sold on credit from Jan 2 through Jan 12?	_____	_____
4. To whom was check No 350 issued?	_____	_____
5. How much was paid out from petty cash from Jan 2 to Jan 10?	_____	_____
6. For what was \$400 spent on Jan 2?	_____	_____
7. How much was due Helen Gleason on Jan 10? ⁴	_____	_____

WORK OUTSIDE THE CLASS PERIOD

Some bookkeeping teachers restrict all work on practice sets to the classroom. Students are not permitted to do any work on the sets outside of class. This action is taken to prevent some students from copying and other students from working beyond the daily or weekly assignment points.

The teacher need not take such action to prevent copying. The alert teacher can usually detect copying early in the practice set period. When a slow student takes his work home, the teacher should make it a point to check his work informally the next day—walk by his desk and observe the work he has done out of class. If the student normally makes mistakes in class but has several days' transactions completed neatly and without error, the teacher may ask him a few questions to determine whether he understands what he has done. If the student has copied the work, in all probability he will not be able to give satisfactory reasons or explanations for some of his work. Also, most students who copy are not clever enough to know how to copy without getting caught. They will copy by journals rather than by chronological entries, hence, one journal will be recorded several days ahead of the other. This

⁴ For an example of a complete test see M. Herbert Freeman, J. Marshall Hanna, and Gilbert Kahn, *Teachers' Key for Stone Radio and Television Service The George Heating Company Practice Sets*, Gregg Publishing Division, McGraw-Hill Book Company, Inc., New York, 1958, pp. 9-12.

would seldom be the case under normal circumstances. Once the teacher spots evidence that the student may have copied, he should make a more thorough check. The teacher who sets guideposts, as suggested earlier, and who checks to see that students are keeping up with their work will go a long way toward discouraging copying.

The teacher should also recognize that copying is usually a symptom of something more than laziness. In general, students copy only when they feel insecure and are unable to do the work in time to meet the deadlines imposed by the teacher. Excessive copying is an indication of poor instruction and implies an unwholesome relationship between the students and their teacher.

Students who are ambitious and sufficiently interested to wish to work ahead of the general class are usually the better students. Such students should not be prohibited from working at a faster speed if they wish to do so. Students who have worked ahead may be effectively used as assistants to the slower students, thus, the entire class profits.

USE OF TEACHER'S KEY

Beginning bookkeeping teachers always wonder whether or not they should use the practice set key in the presence of the class members. If a key is not used in class, the teacher must audit the practice sets. In a small class with an enrollment of fifteen or fewer students, auditing is seldom a problem. The teacher has sufficient time during class to help the students audit their sets. In a large class, however, there may be a time problem. Where the better students are requested to assist, the auditing process may be carried out. But where the teacher is the only one who assists students needing help, the briefness of the class period may force him not only to use the key himself but also to allow the students to use it. When teachers permit students to use the key, this permission should be granted in each specific instance, the teacher should not give a blanket permission to any student to use the key whenever he desires. As a matter of fact, the suggestion that a student use the key should originate with the teacher, not with the student. The student does not ask if he may use the key, the teacher may suggest to the stu

dent that he look up a specific item in the key. Many teachers believe that students should never be permitted to use the key.

When a teacher uses the key in the classroom, he should not become a slave to it. *He should make it a point to do sufficient auditing of sets so that the students see that he can get along without the key.* Another good rule for the teacher to follow is to consult the key immediately if he is going to consult it at all. He should not start to audit a point and then, after spending considerable time attempting to locate the error, give up and look it up in the key. If a teacher starts out to locate the error he should stay with it until he finds it.

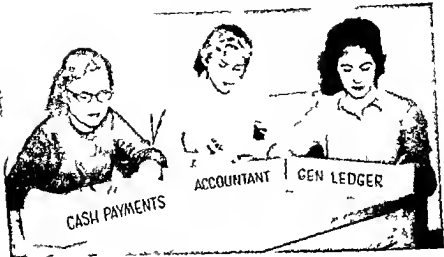
The beginning teacher must be ever alert to the temptation of some students to ask for teacher help instead of trying to solve their own problems. Before the teacher permits students to check answers, either with another student or with the key, the student should show evidence of having attempted to locate the error on his own. The real learning that results from the experience of checking and locating an error is reward for time spent in this process. An important lesson to get over to the class is that in business there will be no key, no teacher, or no other books to which the bookkeeper may turn to find errors.

CO-OPERATIVE PRACTICE SET

Only in relatively small businesses does one person keep all the records. The larger the business, the greater the breakdown in the bookkeeping activities.

Many students will find employment in offices where they perform only one phase of the bookkeeping processes, such as posting to customer accounts or recording entries in the cash receipts journal. It seems logical, then, that students should see how this division of responsibility actually functions. One way that this may be shown is through specialization of the work in a practice set.

Plan. Instead of having each student do the entire practice set, divide the class into groups of five. The five students in each group work co-operatively in the completion of the one practice set. Designate one member of each group as the head bookkeeper; he, in turn, assigns responsibilities to the other members of this group.



Co operative Practice Set Three students working on one practice set The accountant supervises the work of the cash payments clerk and the general ledger clerk

The exact division will depend on the nature of the practice set being used and whether or not business papers are included The following schedule of duties is an adaptation of a plan recommended by Sister Xavier *

- Order Clerk** Records all purchases of merchandise on account in the purchases journal Posts all entries in the purchases journal to the accounts payable ledger Prepares the Abstract of Accounts Payable
- Salesclerk** Records all sales of merchandise on account in the sales journal Posts all entries in the sales journal to the accounts receivable ledger Prepares the Abstract of Accounts Receivable
- Cash Receipts Cashier** Records all cash received in the cash receipts journal Posts all entries in the cash receipts journal to the accounts receivable ledger Proves cash
- Cash Payments Cashier** Records all cash payments in the cash payments journal Posts all entries in the cash payments journal to the accounts payable ledger
- Bookkeeper and Department Manager** Records the opening entry any correcting entries and all miscellaneous current entries in the general journal Does all posting from the general journal to any of the three

* Sister Mary Xavier "An Office Procedure Method of Working Bookkeeping Practice Sets *The Balance Sheet* vol 39 p 213 January 1958

ledgers Posts the summarizing entries from the various journals to the general ledger Prepares the trial balance of the general ledger

If the practice set covers a two month period the positions may be rotated for the second month If additional work is considered desirable the entire practice set may be repeated with students assuming different positions or another practice set may be completed

Outcomes In addition to simulating the division of the book keeping process as found in many offices and to increasing interest in the practice set the co operative plan has several other outcomes The students are given an opportunity to assume responsibility The necessity for co operating is emphasized For the first time students may realize that errors and delays in their work not only affect them personally but also affect the work of others The plan also affords an excellent opportunity for the teacher to provide for individual differences The faster students may be assigned the more responsible positions while the slower students have the more routine functions

PROBLEMS QUESTIONS AND PROJECTS

1 What special values do students receive from working practice sets?

2 What special values do students receive from using business papers with a practice set? Should business papers be used with all practice sets?

3 Why should the teacher work the practice set before using it in class?

4 How many practice sets do you think should be completed during a first year course in bookkeeping?

5 Permitting students to work co operatively on one practice set is frequently recommended What are some of the disadvantages or limitations of this plan?

6 Develop a set of criteria for use in grading practice sets

7 Do you believe that students should ever be permitted to use the key?

8 Should the teacher ever use the key before the class?

9 Select a practice set with which you are familiar and prepare a test which might be used at the end of the set to examine the student's knowledge of the set

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Testing and Evaluating in Bookkeeping

TESTING

Testing in bookkeeping, as in other subjects, should be used to help both the teacher and the student. Tests help the student as well as the teacher to check on the quality of learning of the student. They measure the successfulness of the teacher in making items clear to the students. They help students acquire a sense of confidence toward tackling new topics. They are essential for grading. A testing program, however, can achieve none of these outcomes satisfactorily unless the proper psychological attitude toward testing is developed on the part of both the teacher and the students.

1 *Make the testing program an integral part of the total teaching program.* Tests provide both the means of continual diagnosis of individual needs of students and the basis for remedial instruction. Testing for remedial teaching is a fundamental part of an instructional program. If tests are used for grading purposes only, their full potentialities are not being utilized.

2 *Give tests only according to a planned schedule or pattern.* Tests should not be given just to keep the class busy, or because the teacher has been too busy to plan for a new lesson.

3 *Test frequently.* Tests should be given often enough so that the teacher will know objectively and concretely how the students are progressing, and so that the students will also have a measure of their progress. When only a few tests are given, both the teacher

and the student tend to attach a much greater significance to the test than it justifies

4 *Have students help in the planning for tests* Keep the mystery out of testing by having students help in planning as to when a test is to be given, the topics that will be covered in the test how the test will be evaluated, and why the test is given. No educational values are served by 'springing' a test on a class

5 *Promote a positive attitude toward tests* Negative attitudes are developed when students are threatened that unless they make a certain score on a test they will fail, when a test is given to determine if a student passes or fails, when too much emphasis is given to the grade scored on a test, and when students who make low scores are criticized or embarrassed

6 *Make certain that the test is fair* Tests made up of 'catch' questions or items not adequately covered in class will be resented by students

7 *Make tests all inclusive* Include in every test some items that all members of the class can complete satisfactorily so that some degree of satisfaction will be achieved by each student

8 *Return tests promptly* The testing program is most effective when papers are marked and returned as soon as possible, preferably during the next class period

9 *Reteach on the basis of tests* Testing is not an end in itself but a means to an end—improvement in student bookkeeping knowledge and skill. If students see that the teacher uses the test as a basis for reteaching and not for grading purposes only, they soon look to tests as a means of analyzing difficulties

10 *Avoid associating tests with punishment* Stated negatively, never use a test as a punishment device. A wholesome student attitude toward tests can be destroyed by just one incident of a teacher giving vent to the impulse to give a test as punishment to students for having failed to complete assignments or for being noisy or inattentive in class

PREPARATION AND ADMINISTRATION OF TESTS

Types of Tests to Be Used Tests may be classified in a number of different ways, according to type—problem tests and objective tests, according to method of preparation—published tests

and teacher prepared tests, according to length—short quizzes, unit tests and term tests or examinations. They may also be classified according to their objective—ability to reason and analyze, knowledge of bookkeeping content and procedure, bookkeeping skill or performance ability.

A testing program should include all types of tests. Some students do better, for example, on problem tests than they do on objective tests. Some students achieve high scores on short daily quizzes but their retention is limited and they do poorly on unit and term tests. On the other hand, some students learn new knowledge and skills only after several days' instruction and thus perform poorly on daily quizzes but do well on unit and term tests. To be fair to all students the teacher should not rely on any one type of test but should use a variety of tests throughout the entire course.

Short quizzes. In order to check on the degree of mastery of each lesson, many teachers give short daily quizzes. Some teachers give these short tests at the beginning of each period. The test questions or problems are designed to cover the specific subject matter presented in the preceding lesson. The test questions are duplicated or written on the board, and the students proceed to work on the test immediately upon entering the room. Other teachers prefer to give these short tests at the end of the lesson to determine which points need clarification before students proceed with the daily assignment.

These short quizzes are constructed by the teacher and vary in structure depending upon the topic being tested. The students may be asked to complete a short problem, answer a series of four or five objective questions or analyze one or more transactions. Generally they are sufficiently short to be completed in less than ten minutes. Since the purpose of such tests is to determine what re-teaching may be necessary they are generally corrected immediately by having students exchange papers and check answers. A showing of hands gives the teacher an immediate error analysis to establish points for re-teaching.

Usually records of scores on these tests are not kept. Since the tests are not for grading purposes, there is no value in keeping a daily record of student scores. Some teachers, however, keep a record of those papers that are without error.

Some teachers do not give a daily quiz, but give one at the end of each topic, which may be every two or three days. Topic tests are generally longer than daily quizzes.

The following factors should be considered in constructing daily or topic quizzes:

1. Be sure the quiz covers the immediate topic or content that has been presented.

2. Plan the organization of the questions or problems so that they can be scored with a minimum of confusion and time.

3. Make certain that most class members can complete the quiz within the time limits established. An unjustified amount of time can be spent on these short tests unless they are rigidly time controlled.

4. Organize the quiz so that incorrect answers will reveal problem points in need of reteaching.

To illustrate this last factor, assume that the previous lesson was devoted to the arithmetical calculations related to discounting an interest-bearing note. The short quiz on this topic might consist of this problem:

On April 4, Mr. Jones discounted a 90-day, 4 per cent \$1 000 note dated March 15. The discount rate was 6 per cent. What was the proceeds of the note?

If a student obtained an incorrect answer, the error could have been made in determining any one of the following factors: the maturity value of the note, the maturity date, the discount period, the discount. The fact that a large number of students obtain the incorrect proceeds figure would not help the teacher in deciding which items to emphasize in reteaching. A better quiz on this lesson would be as follows:

1. On April 4, Mr. Jones discounts a 90-day, 4 per cent, \$1 000 note dated March 15.

- a. What was the maturity date of the note?

- b. What was the maturity value of the note?

2. A note which matured on July 6 was discounted on May 10. What was the discount period?

3. A note which had a maturity value of \$1 020 was discounted at 6 per cent. The discount period was 40 days.

- a What was the amount of discount?
- b What was the amount of the proceeds?

Many experienced bookkeeping teachers believe the time spent in administering daily quizzes can be spent more profitably in other classroom activities. They believe that the same objective, determining learning problems, can be achieved from oral questions in class discussion and from examination of student homework papers. The inexperienced teacher should experiment with these quizzes to determine whether or not they are needed. Classes also vary and a teaching procedure which is effective with one class may not be with another.

Unit or chapter tests A test at the end of each unit or chapter¹ is highly recommended. Unit tests focus attention on student difficulties in time for effective remedial instruction, they give students the opportunity to evaluate their progress at regular intervals, and they provide the teacher with the information needed to determine necessary changes in teaching plans. Unit tests also provide necessary data for the evaluation of student progress and achievement.

Unit tests should be both problem type and objective type.

Problem type tests Problem tests, sometimes referred to as performance tests, are used to check both bookkeeping knowledge and know how, that is, the ability to analyze an entry, to journalize, to post, to balance and rule an account, to prepare financial statements, and other knowledge. The problem around which the test is organized is similar to the problems given at the end of the topic or unit in the textbook. Supplementary textbook problems may be used as problem tests. Some teachers use as a test problem one that is given at the end of a unit in the text. By changing names, figures, and sequence of transactions, the problem can be one that the students have completed as an assignment. The regular textbook problems, however, require some adaptation in order to be used as tests, as indicated in the following suggestions.

1 The test should be planned so that most students can complete it within the time established for the test, usually less than one period. On the basis that speed as well as ability is important in

¹ Some textbooks are divided into chapters while others are organized around units.

evaluation, some teachers rigidly time problem tests and introduce the speed factor in evaluating the test. The test is scored both on correctness and on the amount of work completed.

2 Insofar as possible sections of the tests should be independent so that the accuracy of one item or entry is not dependent upon the accuracy of a previous item or entry. For example, a problem type test might provide the students with a trial balance and instructions that a work sheet and financial statements are to be prepared. In this test situation, the accuracy of the financial statements would depend upon the accuracy of the work sheet. An error made on the work sheet would be reflected in inaccurate financial statements. A better plan for the problem test would be to divide the test into several parts, for example

Part I A series of account balances with directions to prepare a trial balance

Part II A work sheet showing trial balance figures with directions to complete the work sheet

Part III A completed work sheet with directions to prepare financial statements from the work sheet data

This plan dissociates parts of the test. It permits a student to complete *each part of the test independently*. An error made on one part of the test will not be reflected in, or prevent the student from completing another part of the test. Such a division also makes it easier to identify student difficulties.

The same problem may be used for all three parts by giving them on different days. The advantage of this procedure is that the students are familiar with the problem used in Parts II and III. This plan, of course, requires that each student be furnished with the correct solution to Part I at the departure point for Part II, and the correct solution for Part II at the start of the work on Part III.

3 A system for scoring the test must be established. The system should be as objective as it is practical. A point system can be established for each part of the test and a scoring sheet duplicated and attached to each test. The point system should contain a limited number of items, otherwise, the time required in scoring the test is excessive.

Satlow makes the following recommendations for the reproduction of the test

Time can be saved by having the test duplicated and counted out in advance for distribution by rows in the class. Checking for accuracy, clarity, and "solvability" before the test is duplicated will avoid unnecessary discouragement of the student, undue embarrassment to the teacher, and unmitigated waste of time and effort by everybody. The use of round numbers will facilitate matters. Other helpful points are double spacing to avoid errors attributable to hasty reading by an erratic eye, the use of a series of dots on a trial balance to relate an amount to its account title, and skipping a line after every five items on the trial balance. These precautions should eliminate or at least reduce errors attributable to poor reading habits."

Printed objective-type tests Printed objective tests to accompany textbooks are available. Sometimes these printed tests are erroneously referred to as standardized tests. The fact that current published tests are not standardized does not detract from the quality of these tests. It merely means that test scores obtained by students in a given class cannot be compared against norms established by other students representing a large number of classes and a wide geographic area. Since the tests are objective and thus insure a high degree of uniformity in scoring, there is no reason why a teacher cannot compare test results with different classes and with other teachers and record scores for making comparisons with future classes. To a limited degree a teacher can establish his own norms for these tests.

Authors of textbooks know that their tests will be used and scrutinized carefully by many teachers. Therefore, they are careful to prepare good tests, to try them out in the classroom, and to revise them before releasing them to the "public." Many hours are spent in preparing each test. Because of the time and effort spent in the construction of tests, they probably represent better tests than the teacher can prepare, considering the limitations on his time and testing facilities.

Printed objective type tests, however, are not available for each

² 1 David Satlow, *Bookkeeping Classroom Management*, *Business Education World* vol. 37 p. 31 January 1957

unit or each chapter in elementary and advanced bookkeeping text books. One widely used textbook provides one test for each two units in the text. Another textbook has one printed test for each four or five chapters in the textbook. If a teacher wishes to give a test at the end of each unit or chapter, as has been recommended, he will need to supplement his use of printed tests with tests he himself has prepared. Problem type tests may be used for some units, but objective type tests should also be prepared and used. Although the teacher prepared tests need not be as long or cover as much content as the printed tests, they should be as well prepared as the teacher's time and ability permit.

Rules for Test Construction Teachers wishing to prepare objective type tests for use in the bookkeeping classroom will find the following suggestions helpful.

GENERAL RULES FOR TEST CONSTRUCTION

Validity

- 1 Determine the validity of a test by choosing suitable material for the test
- 2 Start with twice as many items as you will eventually use
- 3 Construct the test with such a difficulty range that no one can receive a perfect score and no one will receive zero
- 4 State each item simply so that it has the same meaning for all students

Reliability

- 5 A test composed of many items is more reliable than one with only a few items
- 6 Items need not be weighed
- 7 Poor mechanics should be avoided
 - a poor sentence structure
 - b inadequate directions
 - c catch questions
 - d negative statements

Other Suggestions

- 8 One answer should not be dependent upon another or should not suggest another answer
- 9 Avoid an arrangement that will give a pattern in the answer
- 10 Answers should be required in a highly objective form (letters

numbers, checks) and space should be provided in front of the item number for the answer

RULES FOR SPECIFIC TYPES OF TEST CONSTRUCTION

True False

- 1 Approximately one half of the items should be true
- 2 Avoid items which are partly true and partly false
- 3 Each question should contain but one factor
- 4 Use items that cannot easily be answered by a good guess
- 5 Avoid the use of clues such as *all always often, never, alone, only entirely usually seldom totally nearly*
- 6 In instructions, warn against guessing (if scored on R-W basis)

Multiple Choice

- 7 Each item should have four choices
- 8 The same number of choices should be provided for each item
- 9 All answers should be plausible, but only one should be correct

Completion

- 10 Select definite facts
- 11 The item (even with the omission) should be meaningful
- 12 Avoid use of indicators such as *a* or *an* preceding the blank space
- 13 Put blanks at or near end of statement
- 14 The blanks should be of equal length

Matching

- 15 One list of items should be longer than the other
- 16 Use similar subject matter within each subdivision
- 17 Arrange one list in alphabetical order
- 18 The matching section of the test should be completed on one page
- 19 Instructions should indicate that it is permissible to use an answer more than once

Open Book Tests Open book tests have their place in the bookkeeping class. Naturally, little would be gained from an objective test that was taken with the books open. In the first place, the student would not have time to look up the answers. Secondly, the students would probably acquire very little learning by looking up answers and filling in the blanks. But sometimes, when it is desired to test problem situations, the use of the text as a reference may be

quite helpful. For example, suppose that the topic of financial statements has been introduced recently. The students have worked a few problems in which they have prepared the statements but have not had sufficient time to master completely the form to be used. They could refer to one of the illustrative balance sheets in the text for this form. The amounts involved would differ and probably the



Students taking a test from a tape recording of business transactions. The test requires the students to listen to the dramatized transactions and then to make the required bookkeeping entries.

account titles would be different but the main divisions of accounts and their placement on the form would be similar.

Term or Semester Tests The term or semester test is usually given more for the purpose of grading students than for diagnostic purposes. These tests are usually cumulative in nature in that they cover all the material presented during the semester. Printed semester tests correlated with a specific textbook are available from the textbook publisher. If a teacher is constructing a semester test he should follow the same general principles as presented for the unit problem type or objective type test.

Since the grading factor is usually very prominent with semes

ter tests, students are frequently very apprehensive about taking these tests and frequently fear the tests. The teachers should, therefore, have a plan of action which will help eliminate fear, bolster and encourage the students, and instill in them a feeling of confidence.

One method of instilling confidence is by providing a thorough review before the semester test is to be given. Another plan is by providing a review test. An equivalent form of the test to be used on the final examination is prepared and, a few days before the final test is given for grading purposes, the equivalent form is distributed to each student for the purpose of review. Each student may use it as he prepares for his test. He may check on his degree of preparedness for the semester test. Such a review affords the teacher an opportunity to explain the student's weak points and gives the student a chance to strengthen them. This is good practice and is recommended for use on a wider scale than is being practiced by bookkeeping teachers.

SCORING AND ANALYSIS OF TESTS

The use of the term "grading tests" has been purposefully avoided. *Grading* implies the interpreting of a test score in terms of a specific numeric or letter grade. There are several criticisms to the assigning of grades to most bookkeeping tests.

- 1 With the exception of the final semester test, the major purpose for which most tests should be given is to determine learning difficulties and thus to give direction to remedial instruction. The assigning of a numeric or letter grade to tests and the recording of these grades in the record book inevitably result in a shift of emphasis of testing from a diagnostic purpose to evaluation and grading. This factor inevitably destroys the concept that tests are to be viewed by both the teacher and the student primarily as learning aids.

- 2 The grading of a test implies that the test is a valid and reliable measure. All teachers know that some tests are so difficult that few if any students can make a satisfactory grade. On the other hand, tests can be so easy that most students in a class will make high scores. To assume that because a student has ninety-two items out of a hundred correct, he has 92 per cent, or superior, knowledge

of the subject matter is entirely contingent upon the validity of the test

For these reasons it is recommended that tests be scored but not graded. Scoring a test includes

- 1 checking the answers to determine the number correct and incorrect
- 2 ranking the students in the class according to the raw test scores

A test score, under this plan, will show two figures, for example, 26—6. These figures show that the student has a raw score of twenty six correct answers on the test, and that, of all the students who took the test, he ranks sixth from the top. This plan gives both the student and the teacher the information needed from the test. It shows the number of items missed, thus providing an index of the student's difficulty. It also shows how well the student did on the test in terms of all the other students in the class who took the test under the same conditions and with the same instructional background. By a comparison of a student's ranking from one test to another the student and the teacher can measure improvement in relation to the other students in the class. This scoring plan does not show whether the student got an "A" or a "B" on the test, but it does show how well the student did on the test in comparison with other members of the class who had the same instruction, the same assignments, and the same opportunities. If the teacher has some indication of the student's ability in relation to the other class members, he can determine whether or not the student is working up to his potentialities.

Another method frequently used in reporting scores on tests to classes is to give them the range, the median score (middle score in the series), and the mean (arithmetic average of all scores). This helps a student to compare his individual score with the performance of the class as a whole.

Checking Tests and Analyzing Errors The value of the test for remedial teaching purposes is lost unless the test is checked immediately. Students are anxious to know their test results. The problems they encountered on the test are fresh in their mind, learning readiness is at a peak. To speed up the checking, some teachers use student assistants or student committees or have students exchange papers and all members of the class participate in the checking.

Freeman and Kahn encourage teachers to use students in marking objective type tests

There are many reasons why the student should participate in marking papers to see the errors made by himself and his classmates, to appreciate the various parts of the test, to compare his achievement with that of others, to get the feeling that he is a partner in the teaching-learning process, to develop an appreciation of what things are essential, to recognize the importance of accuracy, of double-checking, of neat figures etc , and to stir his desire for immediate solution of the problems over which he stumbled

The big purpose of having students help (other than expediting the job) is that last reason to set the stage for striking while the iron is hot " The moment that papers have been checked, attention is focused sharply on the problem elements, and so corrective instruction is introduced '

If the test is arranged so that the answers appear along the right or left edge of the test sheet, the following method may be used both to check the test and to tabulate the number of students missing each question Place the test papers on a desk one against the other so that only answers of one test extend beyond the edge of the next test Then place a blank answer sheet to the right of the group of tests and the key to the left of the group Be sure that all answers for like numbered questions are properly aligned with the answer sheet By placing a yardstick under question number one, one may grade as many as twenty papers at once, count the number that missed the item, and write the number on the blank answer sheet The yardstick may then be lowered below item two and similarly on down the page Each time, the number of students missing the item is written in the answer sheet When the set of papers is graded, the number of students missing each question is also known

In reviewing the test with the class, the teacher need discuss only those questions that were missed by a significant number of students After the formal discussion, any student may secure additional help from the teacher during the supervised study period at the end of the class period Also during this time, the teacher may

³ M Herbert Freeman and Gilbert Kahn "Bookkeeping Tests" *Business Teacher* vol 30 p 155 March 1953

wish to go over individual papers with selected students who have missed a large number of items on the test

Refining Teacher made Tests for Future Use Certainly if a teacher takes the time to construct an objective type test he will wish to file it for use with future classes. The experience obtained through using the test with one group of students should be utilized in improving the test

When the questions that were missed by a large number of students are being discussed the teacher should determine the reasons why each question was missed by so many students. In some instances, he will find that certain items were not taught well enough to make them clear. In other instances he will discover that the questions were not worded clearly—their meanings were not understood by the students. In the former case the teacher will want to reteach the points involved, and in the latter case he will want to reword the items, perhaps eliminating some of them as he revises the test before using it with future classes

If the test is being used principally for grading purposes perhaps those items that did not serve to distinguish between the good and the poor students should be eliminated in the revision process. Questions that are missed more often by those students making the highest scores on the test than by those who make the lowest scores do not distinguish between good and poor students

The number of students among the highest 20 per cent of score who missed each item should be compared with the number among the lowest 20 per cent who missed that item. If approximately the same number of good students as poor students answered any item incorrectly, that item did not serve to distinguish between the good and the poor students. Likewise any item that was missed more frequently by the high scorers than by the low scorers is not a good item. By making such an item analysis after each administration of the test and by revising the test in light of the two analyses just explained the teacher may in time develop a valid test

GRADING OR EVALUATING

In probably no other area of bookkeeping instruction do such marked differences in philosophy, policy and practice exist among

teachers as in grading or evaluation. Some teachers believe in a strict numerical pattern, by which all work submitted by a student is graded and recorded. The final grade is a numeric average of all the grades given to the student's assignments, tests, and practice sets. Marking and recording are considered by these teachers to be a major teaching function, and they devote much time to this phase of their work.

Other teachers, in grading their students, consider primarily tests and examination results. These teachers contend that bookkeeping is a pyramiding subject. All assignments and class activities are directed toward one objective—developing bookkeeping knowledge. The important thing is what the student knows at the end of the term. Since bookkeeping knowledge can be tested somewhat objectively, the test is the best index of what a student knows, and should therefore be the basis for the student's grade.

Still other teachers believe that the best measure of a student's achievement is his day to day homework papers, they therefore weight homework assignments heavily in determining a grade. The fact that homework can be copied is discounted by these teachers. They state that copying is easily detected and therefore does not materially influence a student's grade.

Attitudes and growth in work habits are weighted heavily in grading by some teachers. Others claim that these intangibles, while important, are too subjective and too difficult to measure to be considered in grading.

Regardless of what a teacher's philosophy of grading and marking may be, he has a responsibility to be able to explain satisfactorily each student's grade. Inability to do so is certain to lead to student resentment. A teacher, therefore, must compile sufficient data to justify a grade, and these data must be in a form that can be interpreted to a student.

Individual File Folder To accumulate data for grading, some teachers keep a file folder for each student. The following materials are placed in the folder.

1. Each assignment paper. After each assignment has been submitted, checked, and returned to the student for whatever correction, review, or discussion is needed, the paper is filed in the stu-

- 1 The general quality of the student's homework
- 2 Evidence of improvement or lack of improvement during the term

3 Evidence of growth or lack of growth in neatness, hand writing, accuracy, promptness in submitting work, quality of work, attention to details, ability to follow instructions and directions

4 Evidence of growth of knowledge as indicated by test scores and of whether the student appears to be working up to capacity

With these data at hand, the teacher is able through conference to point out to the student persistent weaknesses in his work, give suggestions for improvement, and thus explain and justify the student's grade

Grading Based on Assignments on Different Levels In almost any class the abilities of the class members vary widely. To take care of individual differences, some teachers give assignments on different levels of difficulty. This is possible when the first problem for each new topic is a relatively easy one that gives practice in mastering the basic principles of the lesson and is to be worked by all students. The succeeding problems are then of varying degrees of difficulty. Under this plan beyond the first problem, a student may choose which ones he wishes to attempt. The difficulty of the problem and the degree of success with which it is solved—neatness as well as accuracy should be considered—determine the grade. In most cases, the student may earn at least two different letter grades for each problem worked. An acceptable solution would earn the lower of the two grades, whereas an excellent solution would receive the higher of the two. An example of this plan is given here.

Problem 1 must be worked by all students in order to receive a passing grade of D

Problem 2 is more difficult than Problem 1. An acceptable solution earns a grade of C (average), an excellent solution earns a grade of B

Problem 3 is longer and still more difficult than Problem 2. An acceptable solution earns a grade of B (above average), an excellent solution would be given a grade of A (outstanding)

This practice not only aids in taking care of differences in ability through the assignments but also gives each student an opportunity to have some choice in determining the grade for which he will strive. A disadvantage of the plan is that textbooks do not provide problems graded in difficulty for all units and the teacher must construct some problem material in order to use the plan.

PROBLEMS, QUESTIONS, AND PROJECTS

1 The statement was made in this chapter that tests should be used to help both the teacher and the student. Explain how tests may be used to help the student.

2 Think through your own experiences as a student or as a teacher, and list the various instances you recall where sound principles of testing were violated.

3 Prepare a problem type test covering some unit topic in bookkeeping, and explain the point system you recommend for grading the test.

4 Prepare an objective-type test covering some unit in bookkeeping, and explain the grading system you would use for the test.

5 Analyze a printed objective type test, and point out features in the test that you feel could be improved.

6 Explain several ways of using tests for preview and for review purposes.

7 What factors do you believe should be considered in grading bookkeeping students? How much do you believe each factor should count in determining a student's mark? What differences, if any, would you make in the factors used in determining the first semester grade as opposed to the second semester grade?

8 Under what conditions would you fail a student in bookkeeping?

9 Business expects 100 per cent accuracy. This being the case, how can you justify accepting any work which is not 100 per cent accurate and passing students on to work in business whose grade average in bookkeeping is less than 100 per cent?

CASE PROBLEMS

1 The following scores were made by thirty four students in an elementary bookkeeping class on an objective type test containing forty items.

<i>Student</i>	<i>Score</i>	<i>Student</i>	<i>Score</i>	<i>Student</i>	<i>Score</i>
1	25	12	25	23	29
2	40	13	16	24	40
3	29	14	25	25	20
4	9	15	29	26	30
5	25	16	30	27	16
6	32	17	18	28	22
7	39	18	21	29	30
8	12	19	39	30	21
9	32	20	14	31	22
10	28	21	20	32	19
11	35	22	30	33	21
				34	30

Rank these scores in order from highest to lowest. Determine each student's rank on this test. Determine the median (middle score) and the mean (average).

2 To develop desirable personal characteristics, a bookkeeping teacher uses the following self evaluation plan. A self rating form covering the following eight points is provided each student.

- 1 Legibility of handwriting
- 2 Neatness of work
- 3 Oral contributions in class
- 4 Getting along with class members
- 5 Initiative
- 6 Co operation
- 7 Ability to follow instructions
- 8 Personal appearance

Once a term each student is asked to rate himself on each of the characteristics on a five point scale. The teacher also rates the student. The teacher and student in conference compare and discuss each individual rating.

Give your evaluation of this plan.

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The Bookkeeping Room, Equipment, Textbooks, and Materials

IN THE CONSTRUCTION OF NEW buildings and in the remodeling of old ones, the layout for the business department must be included in the building plans. Business classrooms have special requirements as do those for other subject matter areas. The effectiveness of learning is enhanced considerably by a high quality of working equipment and tools as well as the pleasantness and adequacy of the environment.

ROOM

Every classroom should be a pleasant place in which to work and study, and the bookkeeping room is no exception. It can be made so by proper lighting, use of attractive color combinations, and allowance of sufficient space to avoid crowding.

Lighting. Most authorities agree that the business department (especially the bookkeeping and typewriting rooms) should be located on the northern or eastern side of the building in order to assure the greatest amount of natural light and to avoid the glare of direct sunlight.¹ Since natural lighting is the best and the most economical kind of lighting, every opportunity should be taken to use it with maximum effectiveness. If artificial lighting must be used, cold

¹ California State Department of Education *Layouts and Facilities for Business Education* Monograph #1 South Western Publishing Company Cincinnati 1953 p. 7

cathode fluorescent tubes are recommended. These tubes burn instantly without flickering, and the light is soft and glareless. From 40 to 50 foot-candles for each student work station is recommended by lighting engineers. The windows should be equipped with shades or blinds to darken the room for the use of visual aids.

Painting The Better Light Better Sight Bureau provides the following data on color and type of paint to be used in the classroom.

It has been accepted as good practice to use tones of warm colors in rooms not favored with southern exposure and to avoid cool colors in rooms with liberal exposure to the sun. However, the climate may somewhat alter this technique. In any case, the use of light shades of paint is very important in 'lightening' your whole light problem. Avoid using glossy surfaces on woodwork. They are a definite source of glare. Flat white or light ceilings and upper walls combined with slightly deeper-toned lower walls, and/or dados, make the most comfortable combination for visual acuity. Lower walls which have a 40° to 60° reflection factor contribute to ease in seeing. The ceiling should be painted a flat white or light enough to reflect at least 80% of the light.²

Approximate Per cent Reflection		Approximate Per cent Reflection	
White	85%	Medium Gray	60%
Ivory	75%	Light Blue	60%
Pink	65%	Light Green	55%
Yellow	65%	Dark Brown	10%
Apricot	60%	Olive Green	10%
Tan	60%	Dark Blue	5%

Area The West Virginia State Department of Education³ recommends that from 20 to 25 square feet of floor space be allowed for each pupil. The State Departments of Education of Kentucky⁴ and of California⁵ recommend 25 square feet per pupil in the book-keeping room. The teacher's area should include approximately 120 square feet of floor space, which allows for a teacher's desk or table 30 by 60 inches.

² Better Light Better Sight Bureau *Education in a Truer Light*

³ West Virginia State Department of Education *Standards for Schoolhouse Construction* Charleston 1945 p. 47

⁴ Kentucky State Department of Education *Business Education Bulletin* Frankfort 1956 p. 465

California State Department of Education *op. cit.*

Chalkboards The bookkeeping teacher needs a considerable area of chalkboard space. The minimum requirement would be a chalkboard across the entire wall at the front of the room. Most teachers would prefer to have additional chalkboards on the side of the room opposite the windows. Ruled forms such as journals, ledgers, or work sheets can be placed on the side board, the front board may thus be used for working space.

Chalkboards of a green shade reflect from 20 to 26 per cent of the light, and, therefore, are much to be desired over the traditional black chalkboard. The entire chalkboard area can be used as a tackboard when needed.

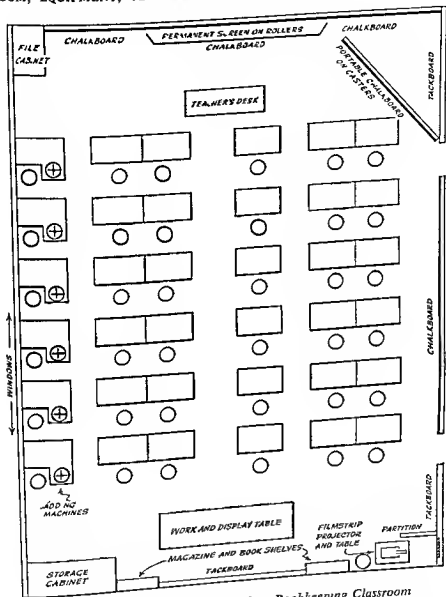
The advantages of a portable chalkboard mounted on rollers were discussed in Chapter 5. Such a board should have high priority on any bookkeeping equipment list.

Tackboard Another area important in any room is the tackboard space. The minimum requirement would be an area 4 feet high and 8 feet long. Some teachers may prefer to have a larger area. The magnetized chalkboard is one way of expanding this area. Some teachers prefer to have one side of their portable chalkboard converted into tackboard space. This arrangement permits bringing the tackboard to the front of the room when it is being presented and explained to the class. If the size of the room permits both, a portable tackboard and a portable chalkboard are highly desirable.

Storage Cabinets Teachers need storage cabinet space in which to store workbooks and practice sets which are to be graded, teaching charts and posters, duplicated materials, filmstrips, slides, and supplies. A large storage cabinet at the back of the room will provide this space. A standard filing cabinet will provide space for student folders, assignment and instruction sheets, and additional materials.

Reference Section A very important part of every classroom is the reference area. In the bookkeeping room this area should consist of a reading table and book and magazine shelves. A supply of bookkeeping and related subjects textbooks, accounting and related periodicals, and accounting career materials* should be available for reference and for student use in completing special projects. The

* For a list of suggested reference materials see *The High School Business Library*, American Business Education vol IX No 4 pp 242-247 May 1953



A Suggested Floor Plan for a Modern Bookkeeping Classroom

more advanced students in the bookkeeping class should be encouraged and assigned to do special work which will broaden their understanding of bookkeeping. Materials these students will need in their work can be made available through this reference section.

Visual Aid Area Chapter 5 emphasized that if filmstrips are to be used to their maximum advantage, facilities should be provided in the classroom. This enables the students who have been absent or who are having special problems can view and study appropriate filmstrips without disturbing the other members of the class. A small section in the back of the room may be reserved for this purpose. A small screen can be painted on the wall, and a short partition can be constructed, if necessary, to darken the screen area. The filmstrip projector and filmstrips would be permanent equipment in the room and would thus be available at all times.

A large, permanent projection screen mounted on a roller should be available at the front of the room.

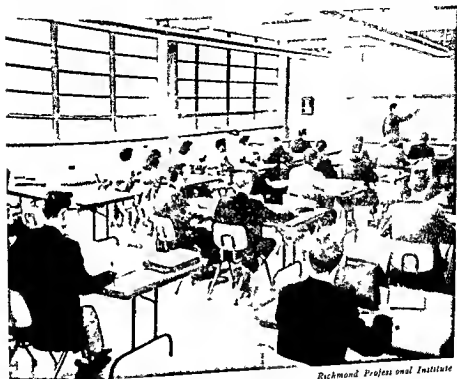
EQUIPMENT

Desks A very important item of equipment in a bookkeeping room is the desk or table used by the student. Some teachers prefer to have an individual desk for each student. Others prefer to use tables that will accommodate from three to five students. Since bookkeeping instruction requires the use of practice sets, textbooks, workbooks, and frequently a variety of papers at one time, the working space for a bookkeeping student should be somewhat larger than that provided in many classrooms. Certainly, armed chairs are not suitable for the bookkeeping room. In addition to work space, the bookkeeping student needs facilities at or near his desk for the storage of extra books and materials. This space may be a shelf under the desk top at the end of the desk, or under the chair. Open storage shelves are preferred to closed drawers.

Desks and tables made of wood or steel may be obtained. The desk top may be of the same material as the rest of the desk, or it may be of plastic. Desks with steel bases and plastic tops are available. If it is desired, the desk top may be finished to give the appearance of a grained wood finish. The top should be light colored, thus reducing the amount of contrast between the desk top and the papers and materials used by the student. The finish should be dull to avoid reflection and glare.

A flat surface is recommended for the bookkeeping desk since bookkeeping students frequently lay on it pens, pencils, rulers, erasers and even ink containers. With the use of a flat surfaced desk

these items will not roll to the floor. Another argument for the flat surface is that the teacher may prefer to organize the desks in groups to facilitate group work. Flat surfaced desks provide a better group arrangement.



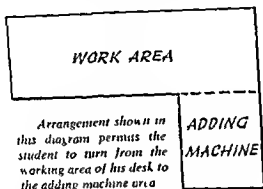
Richmond Professional Institute

Note that the students in this bookkeeping class have ample room on their work tables for the materials that they need in their classwork

The following desk specifications are recommended

Surface	Smooth, hard finish, nonglare		
Color	Light		
Storage	Sufficient to hold textbook, workbook, ruler		
Space	Range 26" to 30'		
Height	(10%, 26', 15%, 27', 25%, 28", 40%, 29", 10%, 30")		
	Individual	Double	Four to Five Students
Top	Width	20' to 22'	22"
	Length	30' to 36"	56" to 60'
			24"
			60' to 66"

A dual purpose desk may be used for the adding machine units that may be provided in a bookkeeping classroom. By the use of an L shaped desk work space is provided near the adding machine. The desk can be used as a regular student station, if necessary. A swivel chair should be provided with these desks to permit students to turn from the machine to the work space.



For a list of companies manufacturing equipment especially designed for bookkeeping and accounting classrooms, see Appendix K.

Chairs A straight back chair is recommended for the bookkeeping room. It should harmonize with the desks or tables in the room. Wood chairs are available in a wide range of prices and quality. Chairs made of steel frames with wood seats and backs are available. If no storage space is provided in the desk, a rack beneath the seat for holding books is desirable. Chairs with the rear legs sweeping back keep the back of the chair away from the wall and also prevent the person sitting in it from tilting back in the chair.

Adding Machines The desirability of providing adding machines in the bookkeeping room was discussed on page 36. The machines should be so located in the room that they are convenient both for the students to use and for the teacher to supervise. Adding machines placed at the back of the room are inconvenient both to the students and to the teacher. When several machines can be provided, it is recommended that they be placed along one side of the room, one at the end of each row. Electric machines are preferable to manually operated machines. The machines should pro-

vide for direct subtraction and for subtotals. The placing of the adding machine stations must be so planned as to provide electric outlets at the desired points.

TEXTBOOKS

The textbook should be selected with great care and the students should be taught how to use it effectively. The chief factors to be considered in the selection of a textbook are organization and presentation of content, usability by students, readability, aids to learning, authorship, and physical features. Each of these factors is developed in some detail here so that this analysis may be used as a check list in the evaluation of bookkeeping textbooks.

I *Organization and Presentation of Content*

- 1 Is its content designed to promote your course objectives?
- 2 Are the various topics given proper emphasis?
- 3 Is the organization flexible so it can be used easily?
- 4 Are the divisions small enough that the new material may be presented in one class period?
- 5 Are practice problems provided for each subject matter division?
- 6 Is the material up to date?
- 7 Is there continuity from one topic to the next?

II *Usability by Students*

- 1 Is the text material adapted to the maturity and ability of the students?
- 2 Do the text explanations take into account previous business experiences of the students?
- 3 Are the explanations clear, concise, and well illustrated?
- 4 Are adequate review problems provided?

III *Readability*

- 1 Is the vocabulary at a suitable level for the students?
- 2 Are terms clearly indicated and defined?
- 3 Are new principles made easy to understand by proper visual aids?
- 4 Does the format and style of type make reading easy?
- 5 Is the paper of such weight that print does not show through?
- 6 Is the legibility of print enhanced by the paper finish?
- 7 Are bold face headings, subheadings, and questions used to make for ease in reading?

IV *Aids to Learning*

- 1 Are the illustrations adequate and of good quality?
- 2 Do the questions really direct learning, aid recall, organize learnings and provoke thought?
- 3 Do the vocabulary lists prepare for reading readiness and understanding?
- 4 Are the problems of varying length and difficulty to provide for individual differences? Are supplementary problems provided?
- 5 Are the visual aids clear and appropriate?
- 6 Do suitable achievement tests accompany the text?
- 7 Are suitable workbook materials available?
- 8 Are sufficient practice sets included as supplementary materials?

V *Authorship*

- 1 Have the authors had first-hand business experiences?
- 2 Have the authors had public-school teaching experience?
- 3 Have the authors tried out the textbook materials in the classroom?

VI *Physical Features*

- 1 Are students given how to-study helps in the text?
- 2 Does the preface make clear the purposes and the plan of the textbook?
- 3 Have visual aids been used to make the book attractive?
- 4 Is the book as a whole pleasing as to size, shape, color, and sturdiness of construction?
- 5 Is the book bound so that it will remain open on the desk?

Workbooks Workbooks prepared to accompany modern bookkeeping textbooks are designed to facilitate and enrich learning. They assist the student in his study and save both student and teacher time.

Most workbooks provide learning guides correlated with each unit in the textbook. As has been pointed out in other places in this book, the learning guides are designed as an aid to the student in his study of the textbook and as a self test.

The workbooks save teacher time in duplicating forms, preparing and duplicating learning guides and making assignments. They also greatly facilitate the teacher's work in reviewing, checking, and evaluating the work of the students. The workbook saves student

time by providing the necessary forms needed for completing assignments

Teacher's Manual and Key The modern textbook program includes a teacher's guide that is of great value to the bookkeeping teacher. It is usually called a teacher's manual and key and includes such helps as the following (1) an explanation of the purposes and organization pattern of the textbook, (2) teaching suggestions for clarifying for the students portions of the textual explanations, (3) visual aids for putting across subject matter, (4) solutions to problems and answers to questions included in the textbook

A beginning teacher will find the teacher's manual a most helpful guide. Experienced teachers will also find considerable use for the teaching suggestions, the visual aids, and the solutions portions of the manual

Teachers should be cautioned not to use the solutions part of the manual to such an extent that it becomes a crutch without which he cannot teach. A teacher's manual is intended to help but in no case should it be allowed to enslave the teacher

PROBLEMS, QUESTIONS, AND PROJECTS

1 Make a drawing of your bookkeeping room^{*} showing approximate size and shape, number and location of windows, amount and location of chalkboards and tackboards, number and type of light fixtures, and storage space. List the changes that you would like to see made in this room. Mark with an X those changes which you think can be made with a reasonable amount of financial expenditure

2 Write a report to the school principal outlining the changes you wish to have made in your bookkeeping room and equipment. Justify your request

3 Prepare a list of books, pamphlets, and periodicals for the reference section in the bookkeeping room

4 List the five features of a bookkeeping textbook that you consider to be of greatest importance

5 Examine two bookkeeping textbooks and evaluate each one, using as a check list the criteria given on pages 333 and 334

6 Prepare a list of study suggestions designed to help students use a bookkeeping textbook effectively

If you are not now teaching bookkeeping, select a bookkeeping room in which you have observed

7 Select a bookkeeping class and measure the heights of the various students. On the basis of your measurements, determine the various heights of desks and chairs and the number of each height, that you would recommend for the class for the most ideal seating.

CASE PROBLEM

1 To meet the housing and teacher shortage, the Seaboard High School developed a plan for teaching by means of closed-circuit television all courses having an enrollment of more than three hundred. Elementary bookkeeping was one of the courses to be taught under this method. The general plan was as follows:

a All classes being taught by closed-circuit television were to be held in four specially constructed classrooms. Each room was planned to seat one hundred students in side-armed chairs. A television monitor was provided for each ten students.

b The instruction was to be telecast from one room. The students in the room were to be used in the development of questions and discussion, assuming that the questions from one group would be typical of all the classrooms. The telecast would be rotated so that each student would participate in the telecast every fourth day.

c The hour class period was to be divided into two parts: forty minutes for the telecast lesson and a twenty-minute discussion period in each classroom.

d An instructor was to be assigned to each room. The room instructor was responsible for directing the twenty-minute discussion period, checking homework, scoring papers, and issuing grades to students in his assigned room. Uniform assignments were to be made for all rooms and uniform examinations given.

In your judgment, what are the strong points of the plan? the weak points? If you were organizing the program, what changes would you make in the plan?

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- Bower, J. B. "Machines Make a Big Difference in Your Bookkeeping Classroom," *Business Education World*, vol. 36, pp. 20-21, 28, November 1955.

- Boynton, Lewis D *Methods of Teaching Bookkeeping* South-Western Publishing Co, Cincinnati 1955 pp 183-190
- Breidenbaugh, V E "The Bookkeeping Library," *American Business Education*, vol 9, pp 242-247, May, 1953
- California State Department of Education *Layouts and Facilities for Business Education*, Monograph 81, South-Western Publishing Company, Cincinnati, 1953, 52 pp
- Freeman, Herbert M "Using Textbooks and Related Teaching Aids," *Business Education Forum*, vol 8 pp 15-17, January, 1954
- Olson, Milton C "Desks for the Bookkeeping Classroom" *Business Education Forum*, vol 9, p 25, March, 1955

Appendixes

APPENDIX A

Detroit Clerical Aptitudes Examination by Harry J. Baker and Paul H. Voelker, Public School Publishing Company, 204 West Mulberry Street, Bloomington, Illinois, 1937

The reliability coefficient is 85 ± 01 , which is satisfactory. The actual working time is 30 minutes.

This examination is designed to discover and select students having abilities suitable for commercial courses in high school. The examination measures (1) rate and quality of handwriting, (2) rate and accuracy in checking, (3) knowledge of simple arithmetic, (4) motor speed and accuracy, (5) knowledge of simple commercial terms, (6) visual imagery, (7) rate and accuracy in classification, and (8) alphabetical filing. Each factor is known to be important in commercial courses.

Minnesota Vocational Test for Clerical Workers, by Dorothy M. Andrew and Donald G. Patterson, Psychological Corporation, 522 Fifth Avenue, New York 19, N.Y., 1933

The test consists of two parts: a number checking test and a name checking test. Each part contains two hundred items, one hundred of which are the same and one hundred of which are different. Each part is so arranged that the first one hundred items may be compared with the second one hundred items.

The test is sufficiently reliable to warrant application in individual diagnosis. Norms for several different types of clerical work have been developed separately for men and women. The actual working time is 15 minutes.

Turse Clerical Aptitudes Test by Paul L. Turse, World Book Company, Yonkers, New York, 1955

This test provides measures of the important skills and abilities basic to successful performance in the major categories of clerical duties. It yields separate measures of verbal skills, number skills, ability to follow written directions, learning ability, clerical speed, and general clerical aptitude.

Norms for the test are based on the administration of the test to more than 6 000 students in grades nine through twelve. The actual working time is 28 minutes.

Basic Skills in Arithmetic Test by William L. Wrinkle and others, Science Research Associates, 228 South Wabash Avenue, Chicago 4, Illinois, 1945.

The test is designed to measure command of forty-three fundamental skills in arithmetical operations involving whole numbers, fractions, decimals, and per cents. Several forms of the test are available.

The reliability coefficient by the Kuder-Richardson formula is .86 for the sixth grade, .96 for the seventh and tenth grades, and .98 for the ninth and twelfth grades.

No time limit is established for the test, however, it can be administered in one class period.

Cooperative Reading Comprehensive Test by Frederick B. Davis and Mary Willis, American Council on Education, Cooperative Test Division, Princeton, New Jersey, 1943.

The test is divided into two parts: Part I, Vocabulary (15 minutes), Part II, Reading (25 minutes). Four separate scores are provided: (1) vocabulary score, (2) speed-of-comprehension score, (3) level-of-comprehension score, (4) total reading score.

Several forms of the test are available. The time limit is 40 minutes.

Henmon-Nelson Test for Mental Ability by V. A. C. Henmon and M. J. Nelson, Houghton Mifflin Company, Boston, Massachusetts, 1935.

This is a self-marking test that comes in three forms. The test consists of ninety items arranged in order of increasing difficulty. The test has no time limit, but it may be easily completed within one class period. The *Third Mental Measurement Yearbook* states: "It would be difficult to find a test better conceived and better executed within the limits of its objectives."¹

¹ Oscar Kriegen Buros (Editor), *The Third Mental Measurements Yearbook*, New Brunswick, Rutgers University Press, 1949.

APPENDIX B

HANDWRITING WALL CARDS

Handwriting wall cards (classroom perception strips) may be obtained from The Zaner Bloser Company 612 N Park Street Columbus 8, Ohio. These strips may be mounted above the chalkboard as a ready reference and as a reminder of the correct letter and number formations. The strips show both capital and lower case letters and the numbers from zero through nine. Both manuscript (printed letters) and script letters may be obtained. The strips are available in both a black and a green background to match the color of the chalkboard. A set of strips costs \$1.25.

APPENDIX C

SELF EVALUATION SHEET

Instructions Read each question and answer it by circling one of the four possible choices (E) excellent (G) good (F) fair (P) poor

1 *Planning* Do you plan your work before you begin prepare a schedule and perform the most important tasks first?

E	G	F	P	E G F P
Exceptional at organization always follow through	Organized but do not always follow through	Work planned irregularly	Rarely follow a plan	

2 *Tools and Supplies* Do you keep your tools in order and your supplies on hand neatly arranged?

E	G	F	P	E G F P
Always in order ready for use	Not always handy but know where they are	Tools and supplies complete but not arranged well	Tools not well cared for supplies incomplete	

3 *Quality of Work* Is your work neat and accurate?
Is it always completed and turned in on schedule?

E	G	F	P	E G F P
Extremely neat and accurate always on schedule	Quality good but not on time but willing to work over time	Always complete but poor quality	Usually late and not always finished	

4 *Dependability and Loyalty* Do you keep your promises and appointments? Are you absolutely trustworthy? Can you keep confidential information to yourself?

E	G	F	P	E G F P
Entirely honest and trustworthy	Fail to follow through occasionally	Sometimes break the rules	Cannot keep a secret	

5 *Promptness* Do you arrive on time and put in a full day of work?

E	G	F	P	E G F P
Always ahead of time and stay on the job	Usually prompt in arriving but loaf some	Irregular in attendance and promptness	Frequently absent and/or tardy	

6 *Appearance* Are you well groomed dressed appropriately and neatly well poised with pride in your appearance?

E	G	F	P	E G F P
Always clean and neat dressed appropriately	Usually well groomed	Negligent at times	Indifferent and unkempt	

7 *Cooperation* Are you unselfish and a good team worker? Do you volunteer to help others? Do you accept constructive criticism and try to profit from it?

E	G	F	P	E G F P
Always go more than half way, can work well with others	Do my part but do not volunteer for extra duties	Do my work pay little attention to others	Insist on my way of doing things	

8 *Alertness and Interest* Are you enthusiastic about your work? Do you know about happenings around you? Do you 'catch on' quickly?

E	G	F	P	E G F P
Fond of my work learn quickly, keen observer	Do not always understand the first time but stay with it	Learn easily but not always interested enough to stick with it	Need more than one explanation avoid work when I can	

9 *Leadership* Are you self-confident? Do you have new ideas? Can you work without prodding from others?

E	G	F	P	E G F P
Can direct the work of others have initiative	Work well with others seldom need prodding	Work better when alone need help occasionally	Need constant direction and supervision	

APPENDIX D

EVALUATION FORM ²

(For Student Evaluation of Bookkeeping Teacher)

Following are ten questions which should be answered by you and the other students in this class. If you answer them frankly and honestly, the results will give me information on how you feel about this course and the procedures used. I will never know how you, as an individual, answered the questions presented below. This leaflet has been arranged in such a manner that you can answer all questions without revealing your name through your handwriting. Do not write your name on any of these sheets. Indicate your evaluation by encircling the appropriate rating.

² Adapted from a form prepared by Roy C. Bryan and Otto Yntema.

1 What is your opinion concerning the sympathy shown by your bookkeeping teacher?

Excellent	Always kind, considerate, and friendly Always able to see and understand the student's point of view
Good	Nearly always kind, considerate, and friendly Nearly always able to understand the student's position and willing to help students through their difficulties
Average	Generally kind, considerate, and friendly, but every once in a while fails to see the student's point of view
Below Average	Tries to be kind and helpful but is often impatient, grouchy, and sarcastic
Poor	Almost always harsh, grouchy, fault finding, and inconsiderate

2 What is your opinion concerning the discipline practiced by the members of this class?

Excellent	Everyone is so interested in and busy with the class work that no discipline problems ever arise
Good	Nearly all students are so interested in and busy with the class work that very few discipline problems ever arise
Average	Good cooperation is evident on the part of most students. Most students pay attention to the work at hand
Below Average	Occasionally members of the class are too inattentive and disorderly to do well the things that they should be doing
Poor	Frequent general disorder. Work is often interrupted by disorderly and noisy students

3 What is your opinion concerning the fairness of your bookkeeping teacher's decision regarding the students?

Excellent	Absolutely fair and impartial in all matters Every student always gets a fair "break"
Good	Tries to be fair and nearly always succeeds
Average	Most students are treated fairly. A few receive special advantages

Below Average	Certain favorites nearly always receive undeserved favors and privileges and certain disliked students are discriminated against
Poor	Very unfair Many decisions are influenced by things that should have no influence Marked favoritism shown toward some students

4 What is your opinion concerning the ability of your bookkeeping teacher to explain things clearly?

Excellent	All explanations are easily understood Even hard things are made to seem easy
Good	Nearly all explanations are easily understood
Average	Most of the explanations and comments of my teacher are understood by students
Below Average	Nearly half of the explanations and comments by my teacher are hard to understand
Poor	Most explanations are difficult to understand Students generally have trouble in understanding what my teacher really tries to say

5 What is your opinion concerning the extent to which your bookkeeping teacher assists in making the class work interesting?

Excellent	Does everything possible to make the class interesting My teacher is very enthusiastic, has a good sense of humor, and knows how to help the students to get and to retain interest in the class work
Good	Does a good job in helping to make the class work interesting Most students are interested most of the time
Average	My teacher does about as well as most teachers I have had in helping students to get and to retain interest in the class work
Below Average	The class work is not very interesting My teacher is indifferent and unconcerned at times

Poor

Students are bored most of the time. My teacher does not know how to work with a class in a way that keeps the students interested in the work being done.

6 What is your opinion concerning the ability of your bookkeeping teacher to assist students in planning and organizing classroom work?

Excellent

My teacher is unusually efficient in classroom leadership. All students always have well made and clearly understood plans for the classroom work.

Good

My teacher does a good job of assisting most students in forming useful and clearly understood plans for their work.

Average

My teacher is about as effective as most teachers in assisting students to make plans that are useful in guiding their efforts.

Below Average

My teacher often does a poor job of helping to plan the work. As a result, much time is wasted.

Poor

The students seldom have clearly understood plans in mind. They often waste time when they should be working.

7 What is your opinion concerning the extent to which your bookkeeping teacher speaks in an engaging manner with a clear and distinct voice?

Excellent

Always speaks clearly, distinctly, and in a manner that encourages students to pay attention.

Good

Nearly always speaks clearly, distinctly, and in a manner that helps students to pay attention.

Average

Fairly clear and distinct. Once in a while it is difficult to understand the teacher.

Below Average

Rather difficult to understand. Usually speaks in a monotone, has difficulty in speaking distinctly.

Poor

Almost always difficult to understand, voice is very poor, doesn't make his words and sentences clear.

8 What is your opinion concerning the pride your bookkeeping teacher takes in his personal appearance?

Excellent	Always very neat and clean in dress and personal appearance
Good	Nearly always careful about his personal appearance
Average	Generally careful about his personal appearance
Below Average	Often careless about his personal appearance
Poor	Very careless Seems to care nothing about his appearance

Does your instructor take an equal amount of pride in the neatness and appearance of the classroom? Underline your answer More—less—about the same

9 What is your opinion concerning the value of the Bookkeeping Course?

Excellent	I think that I have profited as much or more from this class than from any other class in which I have ever been enrolled
Good	I rate this class above average in usefulness and value
Average	I judge this class to be about average in usefulness and value
Below Average	The things that I have gotten from this class may be helpful to me sometime but I doubt it
Poor	I think that the time spent in this class to date has been a complete waste of time for me

10 What is your opinion concerning the general (all round) teaching ability of your bookkeeping teacher?

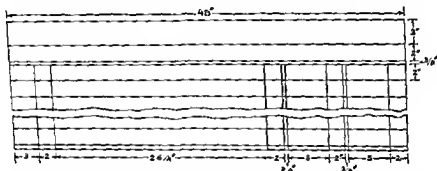
Excellent	One of the strongest teachers I have ever had from the standpoint of real teaching ability
Good	Has more teaching ability than most of the teachers I have had but cannot be classed as one of the very best

Average	Neither outstanding nor inferior—falls about in the middle
Below Average	Weaker than most of the teachers I have had but not one of the very poorest
Poor	One of the poorest teachers I have ever had from the standpoint of real teaching ability

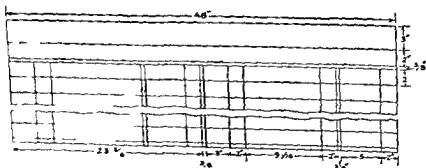
APPENDIX E

INSTRUCTIONS FOR PERMANENT RULING OF CHALKBOARD

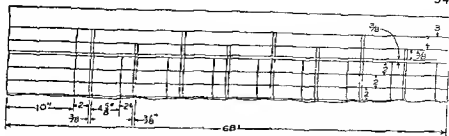
The forms illustrated below show suggested dimensions for the permanent chalkboard ruling of the journal, the ledger, and the work sheet



Journal Useful in the teaching of double entry bookkeeping, report form of balance sheet profit and loss statement trial balance, post closing trial balance opening entry miscellaneous current entries adjusting entries closing entries and reversing entries



Ledger Useful in the teaching of characteristics of the ledger, posting journal entries balancing and ruling accounts and account form of balance sheet



Work Sheet Useful in the teaching of the work sheet special journals combined cash journal, petty cash book, daily summary book and monthly summary book

APPENDIX F

LETTERING FOR YOUR BULLETIN BOARD

Commercially prepared letters may be purchased from the following sources

Stenso Lettering Company, 1101 East 25 Street, Baltimore 2, Maryland

Lettering stencils

Redikut Letter Company, 185 North Prairie Avenue, Hawthorne, California

Raised die-cut letters, ready to use

Mitten's Display Letters, 345 Fifth Street, Redlands, California

Pin back raised letters to stick in board

Graphic Printing, Inc., 701 Seneca Street, Buffalo 10, New York

Raised letters

Kenworthy Educational Service Inc., 138 Allen Street, Buffalo New York

Cutout letters

Faulkner Laboratories, P O Box 1285 Tampa, Florida

Plastic self sticking raised letters in various colors

Micro Sign Products, 1558 Euclid Avenue, Santa Monica, California

Plastic letters

VISUAL-AID SUPPLIES

Educational Supplies and Services,
Box 110, East Carolina College,
Greenville, North Carolina

APPENDIX G

BOOKKEEPING CARTOONS

The titles listed below comprise a set of twelve 8 by 10 inch posters showing cartoons emphasizing some fundamental principles of bookkeeping. The set sells for \$2 and may be obtained from the National Association of Secondary School Principals 1201 16th Street N.W. Washington 6 D.C.

- 1 Proprietorship Equals Assets Minus Liabilities
- 2 A Creditor Is One to Whom a Debt Is Owed
- 3 Check and Double Check All Addition and Subtraction
- 4 Write Checks Correctly to Keep Your Bank Account From Being Raided
- 5 They'll Do It Every Time
- 6 Two Minds Without a Single Thought
- 7 Make Pencil Footings Neatly and Legibly
- 8 If the Difference Is Divisible by Nine You Probably Transposed
- 9 Use Ruler Upside Down to Make Inked Lines
- 10 Accounts Receivable Debits Are Listed on Left Side
- 11 An Account That Has No Balance Is Said to Be in Balance
- 12 Don't Borrow Someone Else's Mistakes

APPENDIX H

VISUAL AIDS FOR USE IN TEACHING BOOKKEEPING

A 35MM SILENT FILMSTRIPS

Business Education Visual Aids 104 West 61 Street New York 23
New York Each filmstrip \$5 (unless otherwise stated)

Accounting Cycle Direct Ledger Entry
Bank Reconciliation
Controlling Accounts
How to Balance Accounts
Interest—60 Days 6 Method—Part 1
Introduction to Accounting
Journal—First Lesson
Petty Cash Systems
Posting—One Journal One Ledger
Bookkeeping and Accounting Errors (\$7.50)

McGraw-Hill Book Company, Text-Film Department 330 West 42 Street, New York 36, New York Each filmstrip, \$7 50, set, \$40 50

Bookkeeping Equation and Balance Sheet
 Use of Accounts and Analysis of Transactions
 Journalizing and Posting
 Preparing the Trial Balance
 Preparation of Work Sheet and Financial Statements
 Closing Entries

Society for Visual Education, Inc., 1345 W Diversey Parkway, Chicago 14, Illinois Each filmstrip, \$5 50, set, \$15

Bookkeeping Cycle Part 1—Recording and Posting the Opening Entry
 Bookkeeping Cycle Part 2—Recording Transactions in the Journal, Posting to the Ledger, and Preparing a Trial Balance
 Bookkeeping Cycle Part 3—Work at the Close of the Fiscal Period

"Accounting Filmstrips" Series of eleven filmstrips McGraw-Hill Book Company, Inc., 330 West 42 Street, New York 36, New York Complete series, \$60, each filmstrip, \$6

Set No. 1 Accounting Series

What Is Accounting?
 Books of Original Entry
 The Work Sheet
 Accounting Cycle
 General and Subsidiary Ledgers
 Columnar Journals

Set No. 2 Accounting Series

Adjusting the Books, Part I
 Adjusting the Books, Part II
 Analysis and Interpretation of Financial Statements
 Closing the Books
 Readjusting Entries

"Accounts Receivable for the Small Business" accompanied by a record narrating the filmstrip Obtain from nearest office of Systems Division, Remington Rand, Inc Free loan for showing

B 16MM SOUND FILMS

1 "Accounting and Calculating Machines" 1 reel, 12 minutes Sold and rented by Teaching Aids Exchange, P O Box 1127, Modesto, California

- 2 "Accounting The Language of Business" Free rental from Associated Films Inc *
- 3 Back of Every Promise 2½ reels, 30 minutes Free rental from Continental Illinois National Bank and Trust Company of Chicago, 231 South La Salle Street, Chicago, Illinois
- 4 Bookkeeping and Accounting " 1 reel, 11 minutes Sold by Carl F Mahnke Productions, 215 East Third Street, Des Moines 9, Iowa May be rented from Associated Films, Inc *
- 5 Bookkeeping and You 1 reel 11 minutes Color or black and white Sold by Coronet Instructional Films For rental use, consult your regular film library or Business Education Visual Aids
- 6 Improve Your Handwriting " 1 reel, 11 minutes Color or black and white Sold by Coronet Instructional Films, Coronet Building, Chicago 1 Illinois For rental use contact your regular film library
- 7 Helping the Taxpayer " 1 reel, 14½ minutes Free rental from Associated Films Inc *
- 8 "SUIAP " 2 reels, 20 minutes Color Free use Obtain from nearest office of Systems Division, Remington Rand, Inc

C. WALL CHARTS IN THREE COLORS (48 inches × 52 inches)

- 1 Bookkeeping Wall Chart No 1—Recording and Posting the Opening Entry
- 2 Bookkeeping Wall Chart No 2—Journalizing, Posting, and Preparing a Trial Balance
- 3 Bookkeeping Wall Chart No 3—Work Sheet and Financial Statements
- 4 Bookkeeping Wall Chart No 4—Closing the Ledger for a Service Business
- 5 Bookkeeping Wall Chart No 5—Adjusting the Ledger
- 6 Bookkeeping Wall Chart No 6—The Bookkeeping Cycle
- 7 Bookkeeping Wall Chart No 7—Types of Journals

The bookkeeping wall charts may be purchased from the George F Cram Company, Inc , 730 East Washington Street, Indianapolis 7,

* Associated Films, Inc , is located at the following addresses

Ridgefield, New Jersey

561 Hillgrove Avenue
La Grange, Illinois

799 Stevenson Street
San Francisco, California
1108 Jackson Street
Dallas, Texas

Indiana The complete set of seven charts may be had in a choice of three types of mountings ranging from \$62 50 to \$97

D INCOME TAX CHARTS (32 inches X 44 inches)

A set of five charts for use in explaining preparation of income tax forms, may be obtained free from the United States Treasury Department, Commissioner of Internal Revenue, Washington 25, D C

E SLIDES

The following series of bookkeeping slides, designed for use with any bookkeeping textbook, was prepared under the direction of Dr Wayne House The slides are distributed by the Keystone View Company, Meadville, Pennsylvania

The Balance Sheet	Finding Trial Balance Errors
The Bookkeeping Equation	Preparing the Work Sheet
Ledger Accounts	Financial Statements
Changes in Accounts	Closing the Ledger
The Journal	Balancing and Ruling Accounts
The Opening Entry	Cash Receipts Journal
Journalizing Transactions	Cash Payments Journal
Posting	Purchases Journal
The Trial Balance	Sales Journal

APPENDIX I

A FIRST LESSON IN BOOKKEEPING

by Ethel M Doney ³

Supplies for first lesson

- 1 A bookkeeping text
- 2 One sheet of ledger paper for each student
- 3 Ink and pens for those who do not have fountain pens
- 4 Exhibits of former methods of keeping records

Talks to students

Bookkeeping is record keeping The act of record keeping began in the long long ago when families dwelt in caves and made their living by hunting and fishing When night came, the prehistoric family gathered within the cave for protection from the dangers that lurked in the darkness By the light of a wood fire, the head of the family group recorded stirring events

³ Adapted from *Business Education World* vol 21 p 593 March 1941

While the sun was still high in the heavens, this man and his fellows had attacked a mammoth

(Simple drawing of cave man outlining on his cave wall the attack of two men, armed with clubs, on a mammoth)

The ancient Romans kept current records of *tabellae* These were tablets of wood covered with a layer of wax The writing was done with a stylus

(Piece of wood, part of a cigar box cover, on which is a layer of wax On it enter letters and figures)

The ancient Greeks and Romans used scrolls made of parchment or papyrus on which to record important events

(Scroll made by fastening the ends of a strip of wrapping paper, 18 inches long and 8 inches wide, around smooth wood rods long enough to project beyond the paper)

In Egypt records were made on perforated tablets of ebony, slate, or ivory, which were strung on rods or cards

(Bars of white soap, cut to about half their original thickness, with designs carved on them Each bar has a hole pierced in one corner for hanging from a stout string)

In Europe, the monks did fine handwork Before printing was invented, all books had to be written by hand, and the monks were the ones who did this They copied the old books in Latin and Greek One monk would slowly read the book to be copied, and several other monks at one time would write what he dictated

The pages of the books were not made of paper but of calfskin or lambskin called *vellum*

Now, let us cross to our own side of the Atlantic Ocean

The ancient Peruvians kept records and sent messages by means of *quipu* a series of knotted strings of different colors Red stood for soldiers, yellow for gold, white for silver and green for corn A single knot meant 10, two single knots meant 20, and a double knot, 100

Quipu served many purposes Besides their use in reckoning, they were used for keeping annals of the empire, for transmitting orders to outlying provinces for registering details about the army

(Banded white cord about 6 inches long to which are attached, at intervals short pieces of colored embroidery floss, with one or more knots tied in them)

The North American Indian recorded events in his life, and in the life of his family or his tribe on hides which the squaws prepared by scraping flesh and hair from the skins of animals killed in the hunt

(Pencil drawing of an Indian engaged in painting designs on an animal hide)

This picture (paragraph below) shows the census roll of an Indian band. The small characters represented the names of the chiefs of the tribes and the number of strokes below tell the number in the family. (Sheet of drawing paper showing six simple pen drawings—of a fish, an oak leaf, the sun, an eagle, a snake, and a star—with several short vertical lines drawn below each design.)

Frontier Bookkeeping

The back of the door served many country merchants as a place to keep records, and chalk took the place of ink.

When credit was introduced and the person who received goods did not immediately give something in exchange for them, it became desirable to make some record of the transaction.

One device was the notched stick. Notches were cut along the edge of a small stick of wood, one notch for each article that was to be paid for at some future date. The stick was then split from end to end through the notches, one part being kept by the creditor and the other by the debtor. When the time of settlement came, the creditor presented his half of the stick as his bill, the debtor produced the other half, and the two were matched together.

If the creditor attempted to increase the bill by adding an extra notch or so, the absence of corresponding notches on the debtor's stick showed the attempted fraud.

(Two notched sticks, both split and tied with string. The notches match when one pair of halves is put together, but one half of the other pair shows an extra fraudulent notch.)

Let's go modern now and examine a present-day record of bookkeeping. On page — of your textbook is a record called a balance sheet, which we will study together.

The teacher introduces the class to bookkeeping and gives an assignment.

She gives anyone extra credit if he brings to class a report on any early methods of keeping records not discussed in class. Or he may make an illustration of an early record-keeping device.

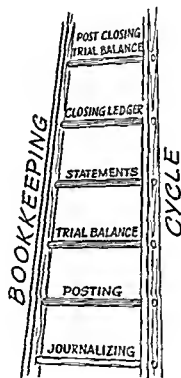
Students will reach following conclusions:

1. The teacher has the ability to correlate bookkeeping with other subjects.
2. The teacher did some work for the class besides the usual detailed lesson plan.
3. The teacher expects the students to work.
4. Extra work will be rewarded.
5. Bookkeeping is and always has been a useful subject.

APPENDIX J

ILLUSTRATIVE CHARTS AND POSTERS

The bookkeeping cycle This illustration shows the major steps in the bookkeeping cycle



The account Many bookkeeping teachers introduce the theory of debits and credits and the results of transactions on asset, liability, and proprietorship accounts through the use of the simple T account. Thus, the students are not confused with the mechanics of recording at the same time they are being introduced to the theory of accounts. The following illustration is designed to help students see the relationship between the T account and the standard ledger account ruling. The chart would be used at the time that transition is being made from the T account to the regular ledger account form.

(T Account)

Title of Account	
Debit Entry	Credit Entry

(Ledger Account)

Title of Account								Account No.	
Year Month	Day	Explanation	Post Ref	Debit Amount	Year Month	Day	Explanation	Post Ref	Credit Amount

The bookkeeping equation The following chart serves to help the student see the relationship between the fundamental bookkeeping equation ($A = L + P$) and the three types of ledger accounts.

THE EQUATION

What a business owns →

← Who owns it →

Assets

=

Liabilities

+

Proprietorship

Debit	Credit	Debit	Credit	Debit	Credit
Enter increases here	Enter decreases here	Enter decreases here	Enter increases here	Enter decreases here	Enter increases here
		Outsiders' Equity		Owner's Equity	

A display like the following one emphasizes the importance of a knowledge of bookkeeping in everyday business experience

GROCERY

Nice stock and good fixtures. One of the best South End locations. Doing better than \$1,000 week. Only \$7,000. Kennedy Real Estate. Phone 3 08 4

MEAT MARKET BAY RIDGE

Main shop area. Business \$300,000 per year. Good lease. Price \$15,000. Cash to take a portion. SM & 4320

LUNCHEONETTE STATIONERY TRANSIT

\$1,000 week. \$125 rent. Five and 12 days. \$12,000 cash. \$5,000. Brooklyn EST 9148

✓ *IS THE GROCERY WORTH \$7,000?*

✓ *IS THE MEAT MARKET WORTH \$15,000?*

✓ *IS THE LUNCHEONETTE WORTH \$12,000?*

—

THE ANSWER IS ON
THE BALANCE SHEET

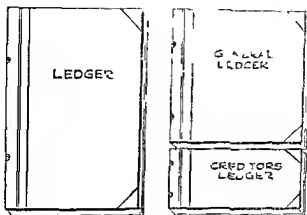
Flow charts similar to the one below may be prepared to show sales procedure, cash receipts procedure, and cash payments procedure

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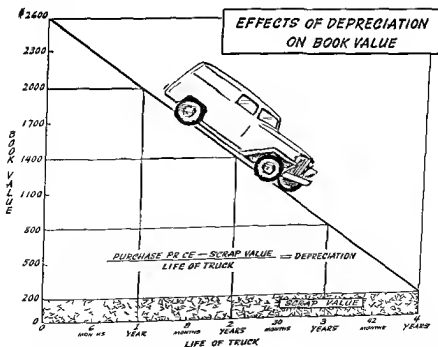
graph TD
    PI[PURCHASE INVOICES] --> PJ[PURCHASES JOURNAL]
    PJ -- "TOTAL PURCHASES" --> GL[GENERAL LEDGER]
    PJ -- "PURCHASES ON ACCOUNT" --> CL[CREDITORS LEDGER]
  
```

The diagram illustrates the flow of purchase data in bookkeeping. It starts with a stack of **PURCHASE INVOICES** on the left, with an arrow pointing to a large box labeled **PURCHASES JOURNAL** at the top right. From the bottom left of the **PURCHASES JOURNAL** box, an arrow labeled **TOTAL PURCHASES** points down to a box labeled **GENERAL LEDGER**. Another arrow labeled **PURCHASES ON ACCOUNT** points from the bottom right of the **PURCHASES JOURNAL** box down to a box labeled **CREDITORS LEDGER**.

A display such as this one may also be used to explain and discuss the customers ledger



Artistic students may be used in the development of charts to explain vital points



APPENDIX K

DESKS FOR BOOKKEEPING AND
ACCOUNTING CLASSROOM

The following companies manufacture desks especially designed for use in bookkeeping and accounting classrooms. A request to the company will bring detailed information on desks and chairs.

Adjusto Equipment Company, 515 Conneaut Street, Bowling Green, Ohio

Arlington Seating Company, Arlington Heights, Illinois

Interstate Adjusteze Corporation, School Furniture Division, 805 East Center Street, Anaheim, California

Paris Manufacturing Company, South Paris, Maine

The Peabody Seating Company, Inc., North Manchester, Indiana

Royal Metal Manufacturing Company, 1 Park Avenue, New York 16, New York

Standard School Equipment Company, Siler City, North Carolina

The Toledo Metal Furniture Company, 1100 Hastings Street, Toledo 7, Ohio

W. M. Welch Manufacturing Company, 1515 No. Sedgwick Street, Chicago 10, Illinois

APPENDIX L

A TEACHER'S SELF-APPRAISAL CHECK LIST ⁴

A. CLASSROOM MANAGEMENT

Do you—

- 1 Take care of such housekeeping details as lighting, ventilation, and appearance of your room? ☐
- 2 Start and finish each period promptly? ☐
- 3 Assign a permanent number to each student, to facilitate sorting and recording of his work? ☐
- 4 Use student assistants to distribute materials? ☐
- 5 Use class officers and/or committees to carry out classroom management routines? ☐
- 6 Use the assistance of superior students in helping slower students and those with lower ability? ☐

B. CLASSROOM PROCEDURES

Do you—

- 7 Take an inventory of student business experiences at the beginning of the school year? ☐
- 8 Strive to make the bookkeeping course interesting and easy, rather than difficult and hard? ☐
- 9 Make sure that basic fundamentals in each topic are thoroughly mastered before starting the next topic? ☐
- 10 Prepare and use daily lesson plans? ☐
- 11 Use the chalkboard *constantly* to illustrate the effect of transactions? ☐
- 12 Relate *every* transaction to the fundamental elements and the fundamental equation? ☐
- 13 Insist on students giving the "why" as well as the "how" for each entry? ☐

⁴ Reprinted from article by J Marshall Hanna and M Herbert Freeman, 'Do You Really Teach Bookkeeping?' *Business Teacher* vol 30, pp 232-233, May-June, 1953

- 14 Insist that students give the account title and classification (not "You debit cash," but "You debit the asset cash")? ☐
- 15 Guide students in reading the textbook properly? ☐
- 16 Proceed from "the known" to "the unknown"? ☐
- 17 Teach just one new concept at a time? ☐
- 18 Always insist that work be neat and complete? ☐
- 19 Make full use of the visual aids in the textbook? ☐
- 20 Strive constantly to improve your question technique? ☐
- 21 Permit students to work "on their own" even though you know they will make mistakes? ☐
- 22 Permit students to work in groups on some problems or on practice sets? ☐
- 23 Use adding machines in the bookkeeping class? ☐

C CHALKBOARD DEMONSTRATION

Do you—

- 24 Have a portion of your chalkboard permanently or semi-permanently ruled for accounting forms? ☐
- 25 Plan *each* chalkboard demonstration carefully? ☐
- 26 Use devices to improve your demonstration (such as colored chalk, connecting lines, a pointer)? ☐

D ASSIGNMENTS

Do you—

- 27 Precede the assignment of each new topic with a class presentation of the topic? ☐
- 28 Make assignments in terms of topics, rather than in terms of pages to be read or exercises to be done? ☐
- 29 Go over each assignment the following day? ☐
- 30 Preview each assignment with the students? ☐
- 31 Reserve a special place on the chalkboard for writing the homework assignment each day? ☐
- 32 Stress the learning value of an assignment, rather than the importance of perfect solutions? ☐
- 33 Work out pupil exercises in advance yourself, the first time you use new materials (as a new book)? ☐

E TESTS AND GRADES

Do you—

- 34 Stress the affirmative aspects of tests (a chance to show what students have learned)? ☐
- 35 Evaluate achievement on each unit before leaving it? ☐
- 36 Use timesaving devices in marking papers and tests? ☐
- 37 Reteach material when tests show that many students have not mastered it? ☐
- 38 Give many short tests, rather than a few long ones? ☐
- 39 Give partial credit for procedure, despite errors in the answers, at the beginning of the term? ☐
- 40 Raise standards gradually throughout the school year? ☐

F SUPPLEMENTARY MATERIALS

Do you—

- 41 Have one or more ready made accounting systems available for student inspection and discussion? ☐
- 42 Have a display of sample bookkeeping forms obtained from a local office supply or stationery store? ☐
- 43 Collect financial statements from newspapers and corporation reports for display and class discussions? ☐
- 44 Display business forms used in local offices? ☐

G COMMUNITY RESOURCES

Do you—

- 45 Promote opportunities for students to obtain part time work—experience in local bookkeeping offices? ☐
- 46 Use field trips to enrich classroom experiences? ☐
- 47 Have students make, or keep up to date a survey of bookkeeping practices in your community? ☐
- 48 Invite businessmen, bookkeepers, and accountants to tell your students about duties, jobs, and procedures? ☐
- 49 Get illustrative materials from local firms? ☐
- 50 Encourage students to assume responsibility for keeping records for their school clubs or classes? ☐
- 51 Sponsor and promote a bookkeeping club? ☐
- 52 Demonstrate bookkeeping and calculating machines? ☐
- 53 Encourage students to volunteer for bookkeeping work in community charity and other service projects? ☐

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